FILE

# PRACTICAL WINERY & VINEYARD

IN-DEPTH COVERAGE FROM VINE TO MARKET ■ March/April 1988

- Hillside Vineyards
- Leaf Removal
- Merlot Review
- Chardonnay Styles
- Label Re-design
- Successful Restaurant Wine Bar

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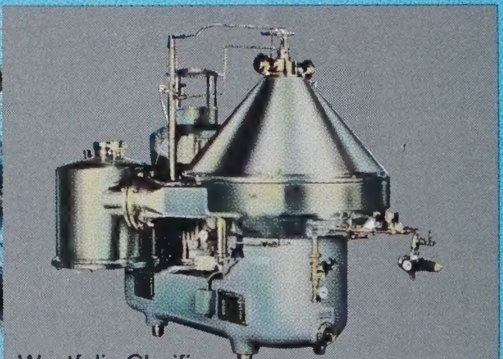

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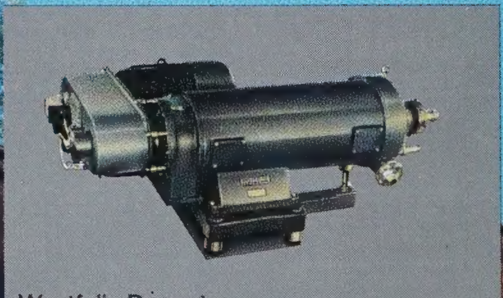

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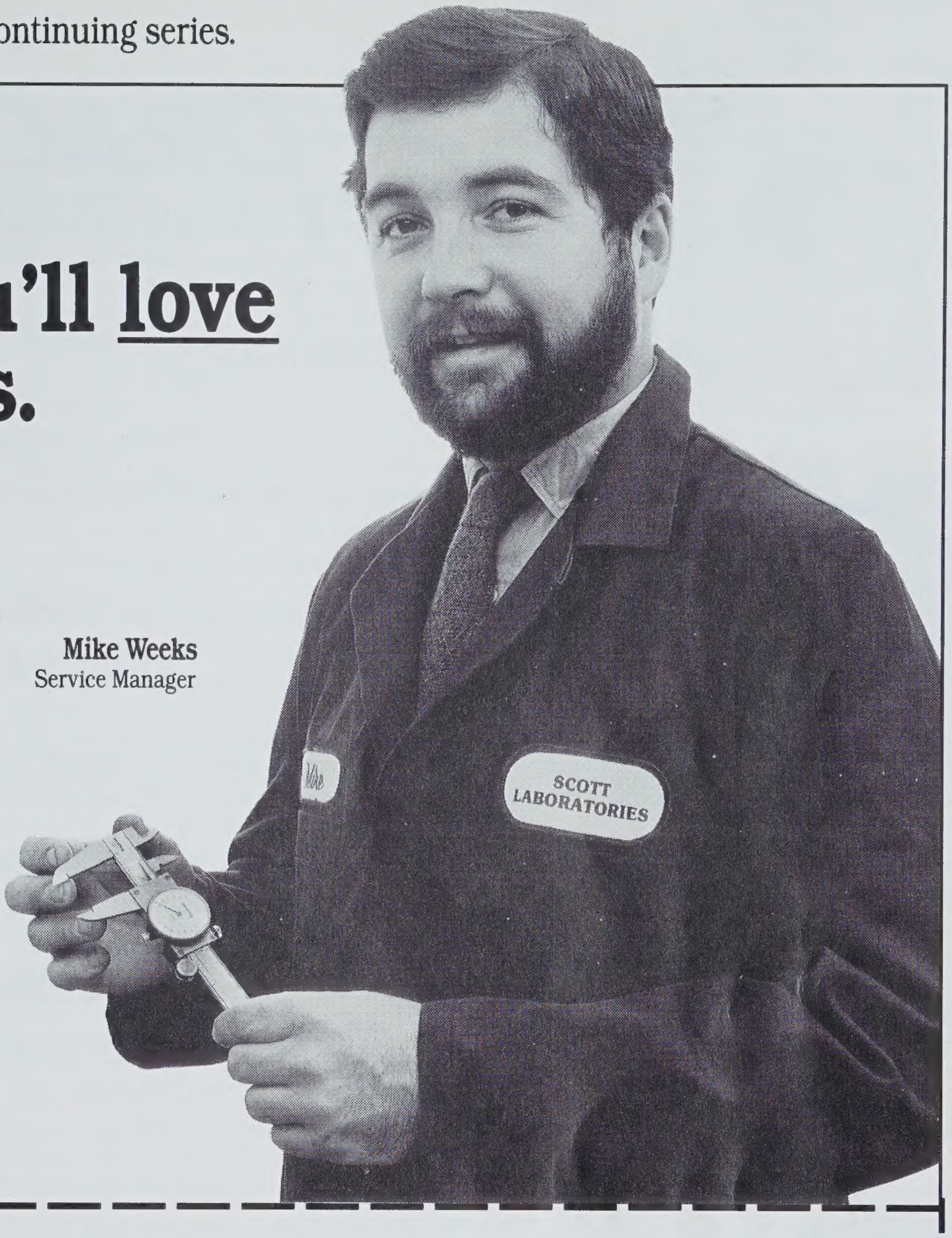

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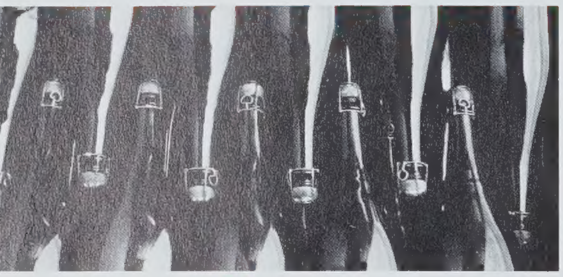

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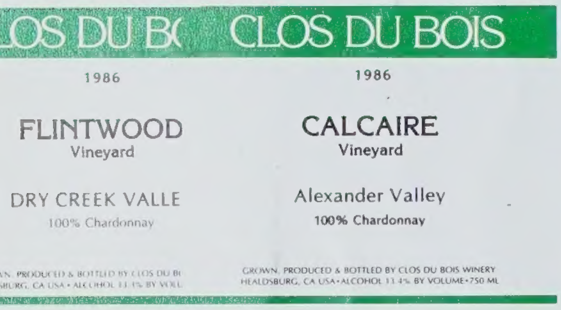

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*Cover*
Pre-bloom of Pinot Meunier (white tips) and Pinot noir. Photo by Scott Clemens.

# PRACTICAL WINERY/VINEYARD

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# Letters To The Editor

**Dear Editor:**

As a resident of Long Island's east end, it was quite a pleasure and a welcome surprise to find your report on our fine area in New York in the Jan/Feb 1988 edition.

What a shock to most people that long Island actually produces high quality wines! Hopefully your report will open the eyes of many more 'wine snobs' to the fact that we produce excellent vinifera varietals that stand up to and surpass many California varieites. Please continue to show your support by broadening the horizons!

**Sincerely,**
**Maureen T. Roslak**

**Dear Editor:**

I've been reading *PRACTICAL WINERY VINEYARD* as a subscriber and amateur enologist for almost ten years, and have finally found the time (between rackings) to write and tell you how much I've enjoyed it.

It is interesting to learn about professional practices, but lately I have missed the letters from amateurs like me who write about making wine. Have you discontinued this column?

For example, I purchased a grape from my supplier in Paterson, New Jersey in 1987 called Carnelian. The boxes say that it was grown in California, but I can find no trace or mention of it in any of the books I have, most of which I have purchased through PWV or through UC Davis.

My grape supplier could tell me little about the grape, but when I found he could not supply any Zinfandel this past fall, I took the Carnelian.

I now have a 50-gal barrel of the wine which I've racked twice. It tastes good for a nouveau. My suspicion is that it might be some new hybrid and I would be grateful for any information you or your readers could give me as to the nature of this grape.

**Thank you,**
**Mario F. Oneglia**

**Dear Mr. Oneglia:**

Thank you for your compliments. I believe you refer to the "Quality Assurance" column, written by Bruce Rector. Unfortunately, Bruce is now very busy at Glen Ellen Winery and rarely can find a typewriter, even though he enjoyed writing the column and would like to have continued it.

Carnelian is a hybrid, a cross between Carinagne, Cabernet Sauvignon, and Grenache, developed by Harold Olmo in 1973. To my knowledge, Carnelian grapes are being used by a couple of California wineries and Tedeschi Winery in Hawaii.

Sincerely,
Don Neel, Editor

---

*The following is an edited version of a letter sent by Peter Brehm, a California wine grape broker, to the Bureau of Alcohol, Tobacco and Firearms in Washington, D.C.*

**Mr. Richard Mascolo,**
**Chief FAA Wine & Beer Branch,**
**B.A.T.F.**

I have a vested interest in wine grapes, as I am a broker/dealer/processor of them. Many of my clients are commercial wineries which procure and process grapes from states other than their own, states not contiguous with the wineries' home states.

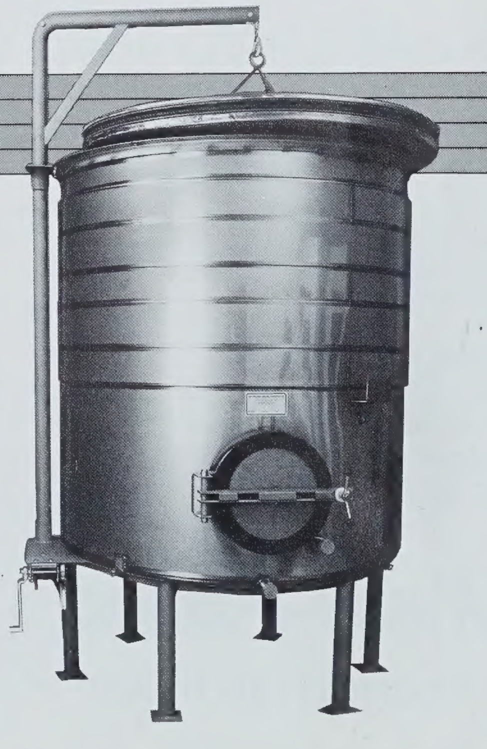
Inspector George Neis of B.A.T.F. has provided me with excerpts from the Federal Alcohol Administration Act—Part 5 (Wine Labeling and Advertising). I quote:

#4.25 **Appellation of origin.** (a) A wine shall be entitled to an appellation of origin if (1) . . . (2) it has been fully manufactured and finished within the state in which such place of region is located, and (3) it conforms to . . . laws . . . of such place . . .

#4.25a **Appellation of origin.** . . . (b) Qualification – (1) American wine . . . or, if labeled with a State appellation, within the labeled State or an adjacent State; or if labeled with a county appellation, within the State in which the labeled county is located; and (iii) it conforms to the laws and regulations of the named appellation governing the composition, method of manufacture, and designation of wines made in such place.

#4.27 **Vintage Wine.** (a) General . . . At least 95% of the wine must have been derived from grapes harvested in the labeled calendar year, and the wine must be labeled with an appellation of origin other than a country (which does not qualify for vintage labeling). The appellation shall be shown in direct conjunction with the designation required by #4.32 (a) (2), in lettering substantially as conspicuous as that designation. . . .

If an Indiana winery obtained Cabernet Sauvignon grapes from the Napa Valley in 1986, shipped them to Indiana, and fermented the grapes there in conformity with federal, California and Indiana law, the resulting wine could not bear a *Napa Valley* appellation if commit-



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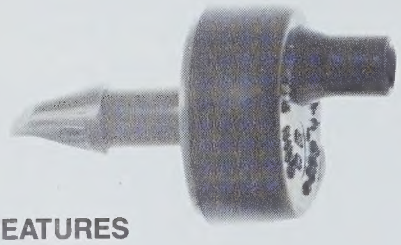

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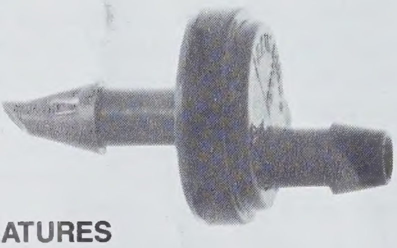

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ted to interstate trade, nor could it under any circumstances carry a vintage date. Unless it was sold in Indiana only, it would be labelled *American.*

If the winery receiving grapes was located in Oregon or Nevada, however, and the wine was made in conformity with California law, it could be labeled *1986 California*, though not *1986 Napa Valley.*

I understand that California wineries have a powerful incentive to restrict the use of their appellations, but I would hope that viticultural interests in California, Oregon and Washington would be in favor of accurate, informative labeling practices.

I can also imagine that parochial viticultural interests in the eastern U.S. and Canada would support continuation of the present regulations, yet I think their long-term interests might best be served by reform of these regulations. Long Island and the Finger Lakes are examples of viticultural regions that might benefit.

Would you provide me with the logic behind the B.A.T.F regulations enumerated above, and inform me of the procedures necessary to change them?

My reasons for wanting to change #4.25, #4.25a, and #4.27 are as follows:

1. Wine labels should disclose truthful information. Prohibiting information disclosure violates Congressional mandates and the best interests of the public. Accurate appellation and vintage information is basic to truthful wine labels.

2. Since State appellation and vintage-dating are permitted to wineries that obtain grapes from adjacent states, there is no logic to denying them to wineries that utilize grapes from states 200 miles away. Why does geography make such a difference?

3. These prohibitions cause wine to be labeled for intrastate trade only. Such wines need not conform to B.A.T.F. labeling regulations, nor to those of the state where the fruit was obtained. Appellation and vintage information on such labels is therefore more subject to abuse and confusion.

4. Interstate trade is inhibited as a result of these restrictive regulations, the prohibition against vintage-dating being the greatest impediment. As a direct result, wineries are suffering pecuniary losses.

5. The Department of Agriculture, under provisions of the Perishable Agricultural Commodities Act, would seem to have jurisdiction over wineries as 'processors'. It thus should have input into the labeling process.

6. Since regional, county and more specific appellations within a state can only be used by wineries located in that state, why not delegate authority to define these viticultural areas to the states themselves? These tasks require expenditure of federal funds and more federal bureaucracy at a time when both should be curtailed.

7. A free market leads to the most advantageous configuration of fruit, processor and consumer. B.A.T.F 's role should not include dictating to states and winegrowers who can produce what.

8. The regulations are another example of the shackling of the American wine industry, an industry which incorporates three basic functions: grapegrowing, winemaking and marketing and distribution. It is natural that new viticultural areas will not possess a sophisticated processing/marketing base. The present regulations help insure that such regions are limited to inexperienced, undercapitalized wineries.

Development of an appellation is a very complicated process demanding decades of hard work and much luck. Even if the geography is right, even if the grape grower can deliver quality grapes, there must be a processor to realize the potential of those grapes, and there must be a distribution system and market which pays the bills. These regulations stack the deck against American farmers and in favor of foreign producers who dealt with such issues hundreds of years ago.

9. Historically, American wine has been produced on the west coast and then shipped east for finishing, bottling and distribution. Modern technology allows the movement of grapes and juice throughout the country without any degradation of the product. The greater freedom of movement B.A.T.F regulations afford to bulk wine should now be extended to the raw material, which probably is easier to document.

10. Some foreign producers have their wines bottled in a different country. There may be a market in the future for Napa Valley Cabernet produced and bottled in London. I've had inquiries!

Thank you for your patience in reading this letter. I hope to receive answers to my two formal questions. I am taking the liberty of distributing this letter to associates, clients, congressional representatives, etc., anyone with an interest in the American farmer, the American wine industry and its role in foreign trade, and the concept of open and fair competition.

**Sincerely,**
**Peter Brehm**

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**Dear Editor:**

Jake Lorenzo, you've done it again! You are an astute private eye, especially

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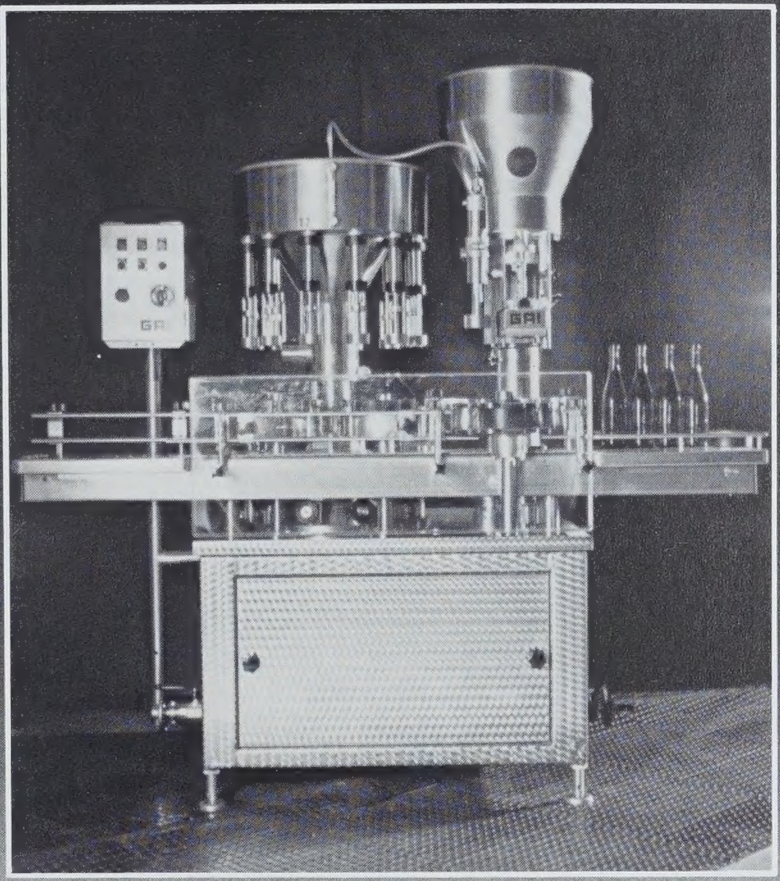

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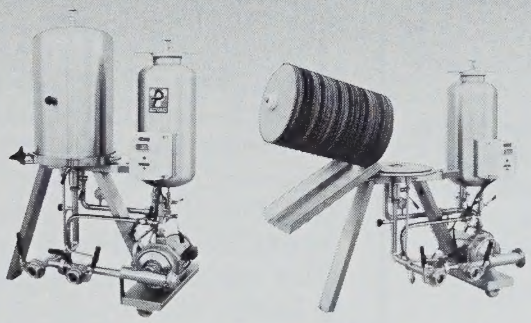

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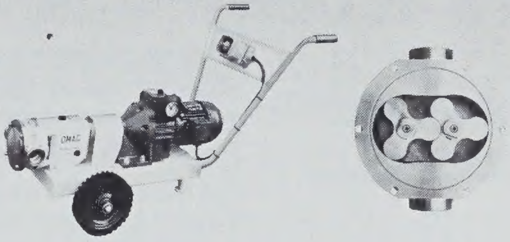

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when it concerns the wine industry. But Jake, can't you put yourself in the place of the writers and critics who 'tell' those willing to listen what they should be drinking?

You must admit, if the proletariat began deciding for themselves what is good to drink and what is not, the writers would have to loosen their grip on the brass ring.

You mentioned one writer. In fairness, I would like to point to one more whose hold on the brass ring is as tenacious as it is discouraging. Here in the east, we have a *The New York Times* wine writer, whose articles appear in the Sunday magazine section.

Quite often, I get noticeably incensed by what seems to me to be pompous arrogance in these articles, but I usually shrug them off with a vague hope that one day consumers will see through the shell game.

There was one instance which caused me to flare up and write a letter to the editor. Of course, it was never acknowledged. The writer made a blatant statement condemning all wine of a color other than red.

This writer, who admitted in print that he only likes red wine ("white wine is simply something to do with one's hands"), not only gets paid to impress us with his shortcomings, but he is paid to critique a product in which he has little interest.

I would love to explain to the Times writer how many of us feel about making wine an integral part of our culture, but in a recent article he said he believes it will never happen here. He may or may not be correct, but this is an honorable and desired goal for those of us in the industry.

It is possible that success in reaching that goal would also loosen the writer's grip on the brass ring. I have had thoughts of spending an evening with the Times writer, as you have imagined spending an evening with Mr. Parker. Unfortunately, that would only prove to be expensive and probably just a waste of time.

Thomas Pellechia
Cana Vineyards Winery
Hammondsport, New York

---

*The following is a letter sent by Charles R. Thomas, MD, President and Winemaker of Chateau Thomas Winery, Indianapolis, IN to the Bureau of Alcohol, Tobacco and Firearms in Washington, DC.*

**Mr. Richard Mascolo**
**Chief FAA Wine & Beer Branch,**
**B.A.T.F.**

We are writing you today to inform you of an unfortuante situation regarding the labeling of our wines. We are a premium class winery purchasing grapes on the West Coast of the U.S. and shipping them to Indianapolis. It is here that they are fermented, aged, clarified and marketed.

Under the Federal Alcohol Administration Act Part 5, Wine Labeling and Advertising ss. 4.25, we are prohibited from using any appellation other than 'American' wine. SS. 4.27 states, "At least 95% of the wine must have been derived from grapes harvested in the labeled calendar year, and the wine must be labeled with an appellation of origin other than a country (which does not qualify for vintage labeling)." This is the problem we wish to discuss with you.

It is understandable that California wineries would wish to keep local appellations for local wineries. We do not dispute this. However, we believe that ss. 4.27 is inadvertently restricting our trade and growth, yet is serving little if any visible purpose.

In 1987 we contacted a person in the regulations department and were informed of two apparent reasons for this regulation:

1) A vintage date without an appellation would serve no purpose.

2) Foreign wines of country appellation

continued on page 68

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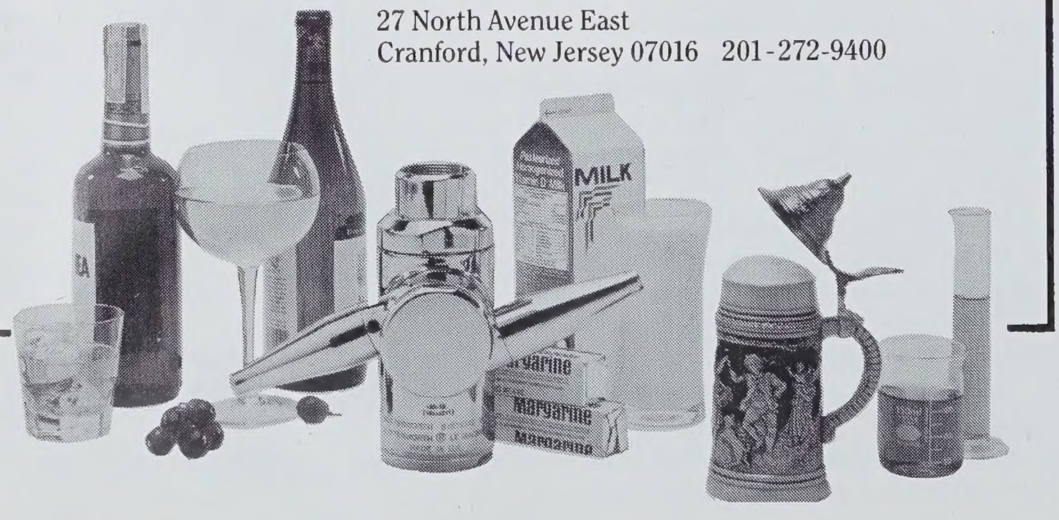


# Free Run from the Editor

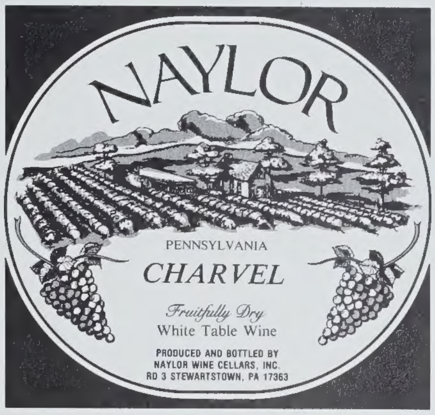
What are the possibilities for Chardonnay proprietary labels?

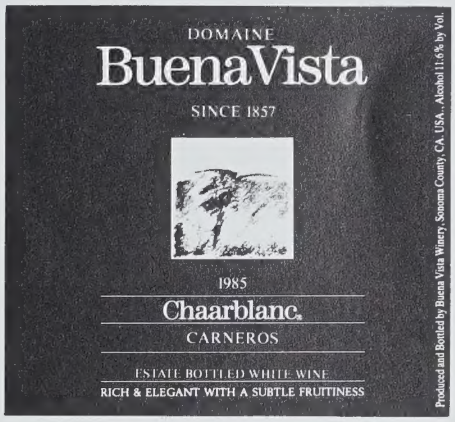
The first one to come across our desk is a 1986 "Charvel" produced by Naylor Wine Cellars in Pennsylvania. "Our tasting room clientele did not purchase very much Chardonnay at $8.95/bottle," says Dick Naylor, owner. "We blended 28% Vidal and 10% Seyval and priced it at $6.95 and the wine has been much better received. The Chardonnay received four months of Limousin barrel age, while the Vidal and Seyval were fermented and aged in stainless steel. All grapes were estate-grown for the 200 cases of Charvel.

The second release is a 1985 "Chaarblanc" produced by Domaine Buena Vista from 100% Carneros grapes, the majority Chardonnay and the balance a carefully guarded secret. What could it be? There isn't any Chenin Blanc or Pinot Blanc grown in the Carneros. Buena Vista's Sauvignon Blanc planting is not yet in production. There is no pinkish color to indicate a blanc de noir addition. The wine is in a newly designed package including push-up dead leaf green glass. Suggested CA retail is $5.99.

Rutherford Hill Winery in Napa Valley has coined the term ChardonnEssence™ to describe the collective attributes of its three Chardonnay bottlings. Although the word does not appear on the labels of any Rutherford Hill Chardonnays, the winery is utilizing it in advertisements in the form of a dictionary entry defining the term.

Who will produce the first "Charnoir" in a Vin Gris style? How about "Chardel" when white Zinfandel's popularity dies down? There always seems to be some Riesling available that could contribute to "Charling." Where will it end?

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Almost 600 grapegrowers and winemakers from eleven countries attended the Second International Symposium for Cool Climate Viticulture and Oenology held in Auckland, New Zealand in January. Hosted by the New Zealand Society for Viticulture and Oenology, chaired by Dr. Richard Smart, the program included an excellent combination of talks, posters and social programs.

The five-day meeting was a fine example of the New Zealanders ('Kiwis' for short) first-rate organization and hospitality. We expect to be notified very soon of which country and organization will host the third Symposium, and we wish those future hosts equal success in conducting an informative program.

*PWV* readers unable to attend the Symposium can obtain a copy of the Proceedings from *PWV*. The 365-page Proceedings, with over 100 papers (oral and poster), is available in North America for $40.00, plus $3.00 shipping and 6% sales tax ($2.40) in California, pre-paid.

The Proceedings includes the following categories:

***Winemaking in the Vineyard***
Where to Plant? – 7 papers
What to Plant? – 15 papers
Avoiding Pests, Diseases and Disorders – 17 papers
Canopy Management – 9 papers
Vigor and Canopy Management – 8 papers
Making Wines from Bordeaux Reds and Sauvignon Blanc -- 4 papers
Assessing the Wine Grape Harvest and Quality – 7 papers

***Winemaking in the Cellars***
Primary Fermentation – 6 papers
Malolactic Fermentation, Stabilization, and Conservation – 8 papers
Making Wines from Chardonnay and Pinot noir – 9 papers
Yeast Technology – 5 papers
Botrytised Wines – 3 papers
Wine Flavors and Aromas – 5 papers
Wine and Society – 6 papers

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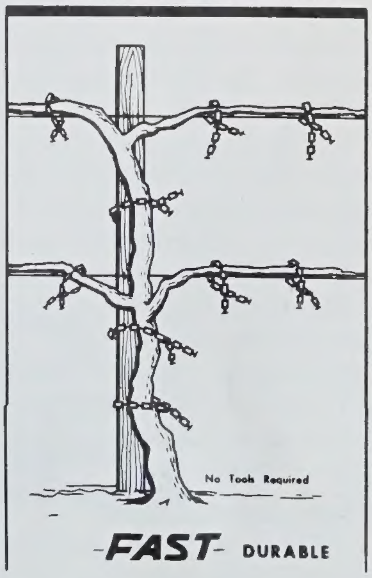

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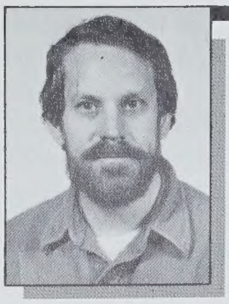

# The Wine Retailer

*Stan Hock*

## Divide and Conquer

Remember studying the Balkanization of Eastern Europe that followed World War I? There were all these little countries—Estonia, Latvia, Lithuania, etc.—whose rulers seemed to exist solely to provide comic inspiration for Peter Sellers a half-century later.

Now, cast a glance at the current topography of California's premium wine industry. In addition to several large, established kingdoms—Napa Valley Vinters Association, Sonoma County Grape Growers Association, etc.—there are a burgeoning number of small, recently-formed principalities dotting the map.

These primarily are affiliations of wineries and/or growers eager to promote a particular appellation or grape variety. Some are formal organizations (boards of directors, by-laws and dues), such as Carneros Quality Alliance, Amador Vintners Association and Pinot Noir America.

Others are more informal groups that cooperate to promote tourism or special events (Russian River Wine Road Association, wineries of the Stag's Leap District, etc.). There is even an as-yet unnamed group of California producers of Rhone Valley varieties.

In California, where close to 700 wineries compete for space on retail shelves and restaurant wine lists, effective, cost-efficient brand promotion is an essential ingredient of commercial success. Few wineries have the resources to mount significant national marketing efforts on their own.

Thus vintners must look to their neighbors and oenological soulmates (other producers specializing in the same varieties) for support and marketing clout. Although they are competitors, vintners who share regional and/or varietal ties have more to gain than lose through cooperative marketing enterprises. When you're navigating a course through a treacherous jungle, it's nice to have companions.

### The Appellation Genie

"The appellation genie is out of the bottle," says David Graves, general partner/winemaker at Saintsbury Winery, Napa, CA. Graves sits on the board of directors of the Carneros Quality Alliance, a coalition of Carneros region wineries and growers devoted to furthering the reputation of their appellation (granted by BATF in 1983).

"Some people argue that appellations are confusing," says Graves, alluding to their proliferation in California during this decade, "but they can't possibly be as confusing as the 600-plus brands out there. The wholesale tier of the wine business is where the rubber meets the road in brand-building, and we've over-amped it, it's imploding.

"Is there a better way to compensate for the weakness of the wholesale level than by getting together with other producers with whom you can cooperate and compete at the same time? It's a win/win situation.

"Sure, there's suspicion about the motives of producers who assert their regional identity, because people think they're claiming superiority. That's not the emphasis in the two organizations I'm involved in (Graves also is a Director of Pinot Noir America). What we're saying is, 'Here's a legitimate region, here's a legitimate variety, that deserves your attention'.

"Carneros makes sense as an appellation, because it is devoted to one red variety (Pinot noir) and one white variety (Chardonnay) that have a recognizable style and, in my opinion, consistent quality.

"Our own brand is important, but we are also part and parcel of the region, our winemaking style comes from the region. We'd like to see a Carneros section, a Pinot noir section, on every restaurant wine list, so that diners will say, 'I'd like a Carneros wine', like they might ask for a Pommard. You need a lot of guys on the log to break that door down."

CQA is pursuing its goals through trade tastings in major cities, solicitation of extensive media coverage and, most important, the release of America's first appellation wine, a 1985 Carneros Pinot Noir ($25.00). The wine, which was released to 100 carefully chosen restaurants and retail shops throughout the USA last November, is a genuinely collaborative effort.

Member wineries submitted close to 50 lots of wine for consideration by a CQA tasting review committee. The final blend, which incorporates wines from seven Carneros wineries, was designed to epitomize the Carneros 'style'. This is the beginning of a program that members of the alliance hope will establish Carneros as America's leading Pinot noir appellation.

### The Kingdom of Zin

Scott Harvey, winemaker at Santino Winery (Plymouth, CA) and a founding member of the Amador Vintners Association, believes that Amador County forms a classic "European-style appellation" in that its most noteworthy wine, Zinfandel, displays "a consistent underlying character from vintage to vintage."

Amador already has two sub-appellations—Shenandoah Valley and Fiddletown—that in many consumers' minds are synonymous with Zinfandel. Yet, intriguingly, Harvey says, "I would like to see Zinfandel dropped from the label eventually, for Amador just to produce an appellation wine like Chianti. I think the best red wine we can make here probably is a blend—some combination of Zinfandel, Barbera, Grenache, Syrah and Cinsault, with Zinfandel predominating."

Amador Vintners, which has been in operation for 3 to 4 years, consists of thirteen wineries. Its most important and innovative promotional effort has been the development of an Amador bottle, which was designed to increase awareness of Amador wines among consumers. The flat-bottom claret bottle has the word 'Amador' and the Amador Vintners Association logo embossed across its shoulder.

Only wines that contain at least 95% Amador County grapes qualify for the Amador bottle, and they must be approved by a Amador Vintner Association tasting panel (qualifying wines produced by wineries outside Amador County are also eligible). If panel members deem a wine unsound, they make recommendations for its improvement, and the wine may be subsequently resubmitted.

In addition to the Amador bottle, Amador Vintners has published an informational brochure about winemaking in the county that Harvey says has contributed to a major increase in tasting room business in the area.

Harvey feels that the organization has served to "centralize and pinpoint a direction for a group of vintners" far removed from the more glamorous venues of Napa and Sonoma counties. "There's

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something here that needs to be explained to consumers," Harvey emphasizes. "This is a distinctive appellation making distinctive wines. That's the message we're trying to convey."

### *Selling Pinot Noir in a Cabernet World*

"We all recognize the agony of the Pinot Noir business," says David Graves, explaining what has drawn 37 disparate wineries to join Pinot Noir America, a varietal-based marketing organization founded in 1986.

"I think we were all tired of explaining Pinot noir to an indifferent world, to people hooked on Cabernet Sauvignon. We realized we had a variety with a lot of intrinsic appeal to the consumer. Pinot Noir America is not a recognition of weakness; it's a recognition of strength."

The idea for the organization sprang from a conversation between Peter Friedman of Belvedere Winery in Healdsburg, CA and wine publicist Ed Schwartz, now the group's publicity director. Friedman told Schwartz that Pinot Noir needed a champion, someone or some group that would, in Schwartz's words, "bring to wine consumers in the U.S. the concept that Pinot Noir is one of the great wines of the world.

"In the past ten years," Schwartz maintains, "no variety in California has advanced in quality as much as Pinot Noir. It's both a new frontier and the last frontier."

Pinot Noir America got a big boost early on when key Pinot Noir producers such as Robert Mondavi, Saintsbury, Chalone, Edna Valley, and Acacia joined the fold. Early promotional efforts have been spearheaded by energetic President Josh Jensen of Calera Winery (Hollister, CA).

Member wineries pay annual dues based on production. Money raised finances publicity campaigns, trade tastings in major cities across the country, and the production of trade and consumer brochures.

Graves believes it is winery money well spent. "It's an investment, like barrels," he muses. "I don't want to compete with other Pinot Noir producers, except in the most friendly, improving-the-breed way. The idea is to make our slice of the pie a little bigger."

### *Rhone on the Range*

California producers of Rhone Valley varieties—Syrah, Grenache, Mourvedre, Viognier, Marsanne and Rousanne—do not own even a tiny sliver of that pie. Few commercial wines produced from the small plantings of these grapes in California are on the market yet (the best-known are Joseph Phelps Syrah and Bonny Doon's Le Cigare Volant, a Chateauneuf-du-Pape style blend of Grenache, Syrah and Mourvedre).

Many more are forthcoming, however, and producers are eager to exchange ideas—not only about cultivation and vinification of these esoteric (to Americans) varieties, but also about marketing. In December, seventeen producers gathered in a Berkeley, CA restaurant to taste each other's wines and discuss the possibility of a cooperative marketing effort. Although no decisions were made, the meeting produced a press release and plans for future events, including a tasting for the wine press.

### *Confusion or Education?*

Is the Balkanizing trend apparent in the California wine industry a positive or negative development? Does it enhance the education of the consumer or lend credence to the charge that Americans eschew wine because producers and connoisseurs mystify it?

I think it's positive. By focusing the attention of consumers on specific regions and varieties, producers emphasize wine's most compelling feature: its infinite diversity. It is the wealth of sensory experiences that wine offers—and the mix of science, history and culture that provide a context for them—that entice people into lifelong love affairs with the fermented fruit of the vine.

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# The Wine Lawyer

R. Corbin Houchins

## Far Horizons

In the September/October 1987 column we looked at some of the mixed business and legal issues which arise when your marketing horizons extend beyond the cellar door.

From a business planning standpoint, geographic expansion cannot be separated from other aspects of growth, especially the charting of increased capital requirements. Expansion brings along with it greater production, larger inventories and slower collections, all of which are capital-hungry, as well as additional payroll expense for coordinating and overseeing a map with more pins in it.

Nevertheless, for analytical purposes it is useful to look separately at one aspect of expansion. In this column we will venture some observations about the set of regulatory issues a winery must face if its products are to reach more remote markets.

Because of the way wineries are regulated, the opportunity to develop innovative methods of getting wine to the customer are restricted.

That does not mean, however, that a winery should not take an independent look at what it wants to accomplish, or that the mainstream is necessarily the best route to market. Between a boutique selling all it makes out of the winemaker/owner's pickup truck and a national mass marketer, other options exist, and innovative business people will create their own.

Let's look briefly at three areas of options: (1) Direct sales, (2) sales to wholesale distributors and (3) sales to other intermediaries.

### The Direct Approach

Most small wineries are already familiar with selling directly to consumers and to selected retail accounts.

The tasting room, the customers who order by mail, and the friendly restaurateur or bottle shop proprietor are all mainstays of direct marketing. The principal limitation on geographic expansion by these methods may be your available time and energy, but legal restrictions operate as well.

For the purposes of illustration, let's say you're a winery in a hypothetical jurisdiction whose laws are as follows:

Although your state permits you to act as a wholesaler and make trade calls and sales directly to holders of retail licenses, the state next door is not so accommodating. Although your state permits you or a carrier to ship wine to your mailing list customers, neither of you may carry it across the state border. In addition, within the state, you have to have a winery license, but it doesn't permit tasting room sales away from the place where you make the wine. The 22nd catch is that you can't get a retail license at another location because you hold a winery license.

### Partial Remedies

There are no entirely satisfactory remedies for these restrictive regulations, but each situation should be looked at for alternatives.

We'll assume that what you really want to do is take your pickup truck across state lines to a nearby major market and service a few bottle shops and good restaurants yourself, rather than sell through a local wholesaler. The law in the target state says only wholesalers can import wine into the state and sell it to the retail trade.

The game is not over yet, however. You ask yourself:

– What does the state law say about who can be a wholesaler?

– Are there guerrillas operating out of their home garages who would be

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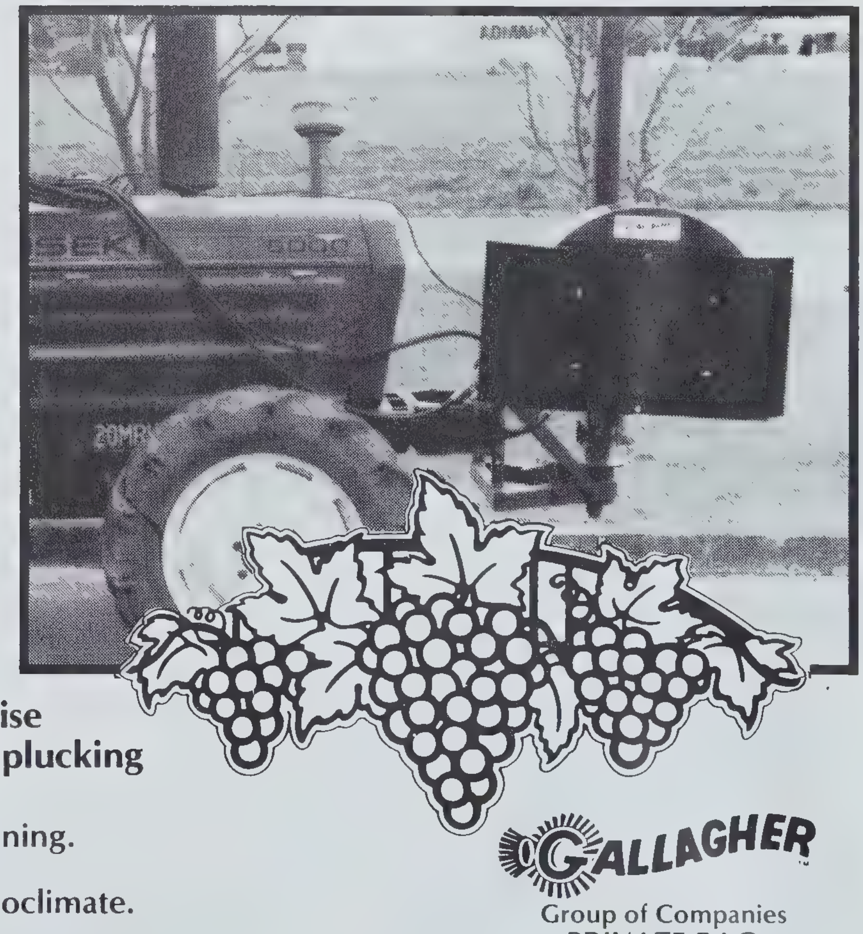

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– Would it be legal for you to stop by your wholesaler's kitchen, exchange documents and then go on to deliver the wine?

– Could you or a group of wineries in your state cost-effectively set up a business in the target state to hold the license and fulfill legal requirements without having a warehouse, trucks, etc.?

The answers to these questions vary not only by state, but by whom you ask. Obviously, you need reliable information in order to do what you want without upsetting the regulators and starting a war with mainstream distributors. A great deal of cautious research and planning would be required for any scheme to expand direct distribution in this manner, and in many places it simply wouldn't fly.

The point is not that there is a loophole in every legal restriction, but that one should consider all relevant alternatives when making an important business decision.

### Mailing / Shipping

Expansion by selling directly to consumers away from the winery would seem to be a logical step, maybe too logical for the regulators.

If your state permits you to deliver or ship wine to people who order it by mail, and you think it makes good business sense, the following considerations may be pertinent:

1. There are experts in direct mail selling. If you decide to engage one, a good contract is important to minimize misunderstanding about what you are buying.
2. Where you do not see the customer, it is essential to have controls to ensure that wine is not delivered to those who may not receive it under state law, which normally means individuals under 21 and intoxicated persons.
3. As with any shipment, make sure you know who bears the risk of loss when wine that has not been paid for leaves your possession.
4. Needless to say (I hope), the federal prohibition on mailing wine applies to intrastate transactions, too.

We have looked at the topic of out-of-state shipments to consumers in some detail before. At this point there is little to add, except that the proposed reciprocal legislation has yet to catch on nationally, but should be considered on a specific market basis.

The methods discussed in the earlier column to deal with problems of out-of-state tax collection and paper work where no reciprocal act exists still seem to me too complicated and expensive for a single small winery.

### Distribution Networks

The vast majority of wine is sold through independent businesses which purchase from the producer and sell to the retailer.

One wishes that were true simply because traditional wholesaler distribution is the most efficient means of getting goods to the customer. In our industry, the reliance on wholesalers is due partly to the value of their services, partly to traditions written into law and partly to failure to innovate within the confines of the laws.

Very likely a winery wishing to expand will find it effective to use distributors. Possibly a distributor for each market will prove ideal. There are, however, other arrangements to consider.

### Delegation

The concept of delegating distribution duties to a subcontractor has been extended in recent years.

Distribution networks have long relied on a second wholesaler in certain specialty markets. An example is the 'subjobber' who serves a seasonal resort in an area too remote for the urban-based distributor who contracts with him.

One can find 'distributors' whose business lies in finding jobbers. Such enterprises take several forms: they may or

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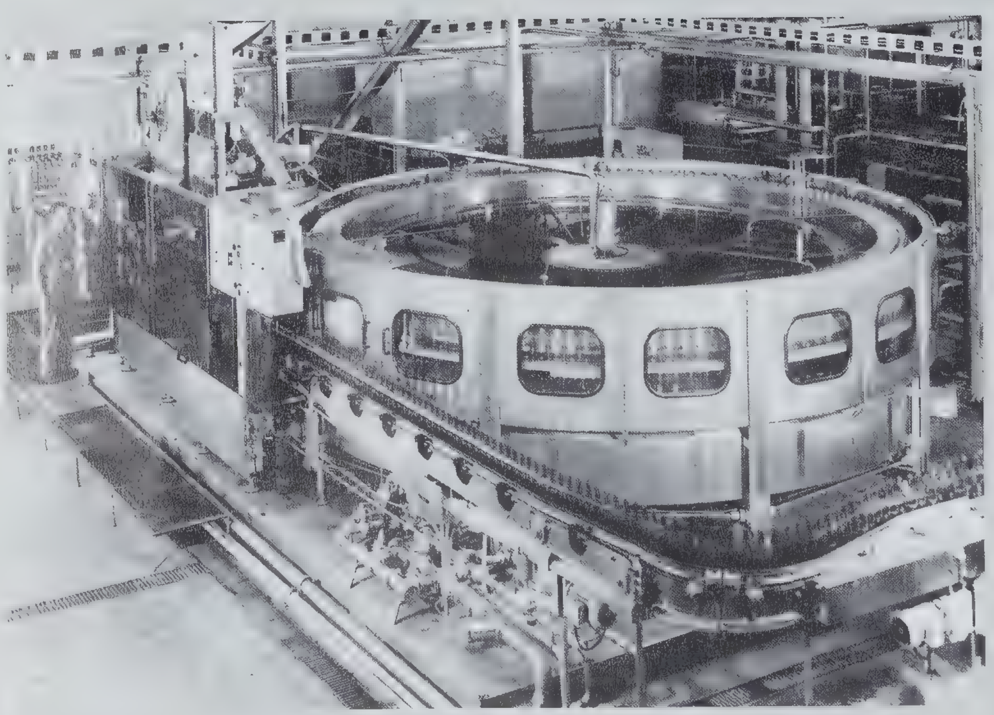

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may not purchase the wine; they may or may not call on the retail trade; they may operate in one state or nationally; they may be licensed as brokers, as wholesalers or as importers. For lack of a better term I will call them 'primary marketers.'

What primary marketers have in common is that they 'represent' a winery over a larger geographical area than the winery can handle and purport to furnish the services necessary to distribute the client's products in all of the target markets.

Their ability to provide those services results at least in part from contracting with third parties, typically traditional local distributors. The scope of coverage provided by primary marketers offers the possibility of making a significant geographic expansion via a single contractual relationship.

Because the term 'primary marketer' describes a function rather than a specific kind of organization, it is impossible to generalize about legal relationships with them. One can, however, outline some of the areas of concern involved in any arrangement whereby someone else is representing your winery in establishing a relationship with a third-party distributor.

### *Intermediaries*

Since anyone in the chain of distribution of your product competes with you for margin, the first order of business is to ascertain what benefits you can secure in exchange for the share of margin you give up.

Normally, people engage distribution intermediaries in the packaged consumer goods industry to gain access to buyers, to render post-sale service, to reduce credit risk and to secure economies in transportation and warehousing.

Certainly all the usual questions about important business associates apply. In particular, you may want to ask:

– Does the marketer promise to get your brand in desirable houses and accounts that you could not secure by your own efforts?

– You should be getting the equivalent of an area-wide sales force. Will the marketer's employees render specified in-store service and monitor the local distributors' efforts?

– Does the marketer pay you, whether or not the customer down the line pays? What assets are behind the promise?

– Can the marketer get your goods to the customer more efficiently than you can? Competitive freight charges and a well-managed pipeline are essentials in geographic expansion. Are services to be provided in inventory control and shipping?

Another frequent objective, at least for a winery of modest size, is to gain some of the advantages of an in-house marketing department.

– Does the marketer have experienced and talented wine marketing people?

– Do the services include devising and executing marketing plans?

– What are the standards of performance?

### *Concerns*

In addition to the standard litany of distribution agreement issues, primary marketer contracts raise a complex set of questions in the area of termination.

Special concerns arise from two principal sources: (1) The marketer may be the official representative of your brand in the eyes of regulators, who may not change that status merely because you want them to. (2) In the course of representing you, the marketer may enter into relationships with wholesalers which create rights to continue selling your brand even after your relationship with the marketer ends.

These problems and some marketing techniques that are being used offshore will be the topics of the next column.

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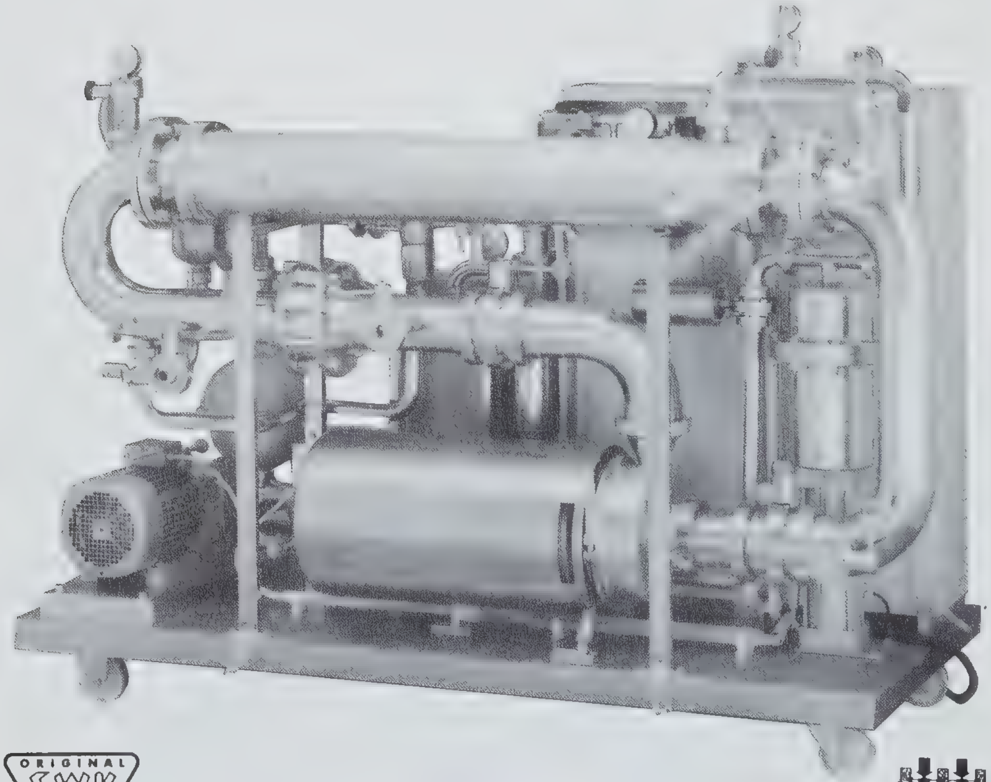

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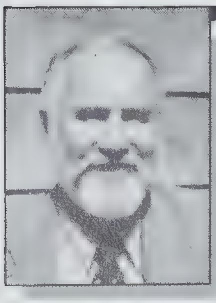


# Winery Water & Waste

D.R. Storm, Ph.D, P.E.

### Cardboard Pipe

*World War II produced incredible, unequalled global suffering and loss of life. In the U.S., during the early 1940's, scarcity of some raw materials resulted in substitutes. Synthetic rubber made from common milkweed, the first generation of structural resins (plastics),and look alike butter (oleomargarine) all made their debut before the termination of hostilities in Europe and Japan.*

*Among construction materials, probably the most memorable pipe substitute was the "Orangeburg Pipe." Its enthusiastic proponents not only claimed hydraulic properties equivalent to cast-iron and vitrified clay pipe, but guaranteed that the pipe joints would resist root incursion, the bane of the urban plumber's craft.*

*This pipe, basically a cardboard cylinder impregnated with coal tar, was installed in many post WW-II dwellings until the mid-1950's, when reports of pipe collapse, deformation and root-bound pipe joints began to reach the ears of building code officials.*

*(I am relating this piece of plumbing history because of my recent experience with Orangeburg Pipe and an Arnold Schwarzenegger of a backyard redwood tree. Needless to say, the cardboard pipe lost miserably, flattened like a pancake. I now know that I will have 150 feet of paper pipe to replace if the Chira Pine or Pineapple Guava gets playful with my sewer.)*

*Orangeburg Pipe has been eliminated as an approved pipe material by the Technical Committee of the Uniform Plumbing Code, but sadly, there must be miles of it still in service. Orangeburg Pipe will live forever in ignominy like the Edsel and wine-in-cans; industrial offerings that were not well received.*

## Controls and Instrumentation

From the simple pushbutton, off-on switch to the sophisticated microelectronics of a space-age control panel, information feed-back on how your water or wastewater system is performing is basic to good utilities management. For small, uncomplicated systems, a periodic visual check by responsible maintenance personnel is probably all that is needed.

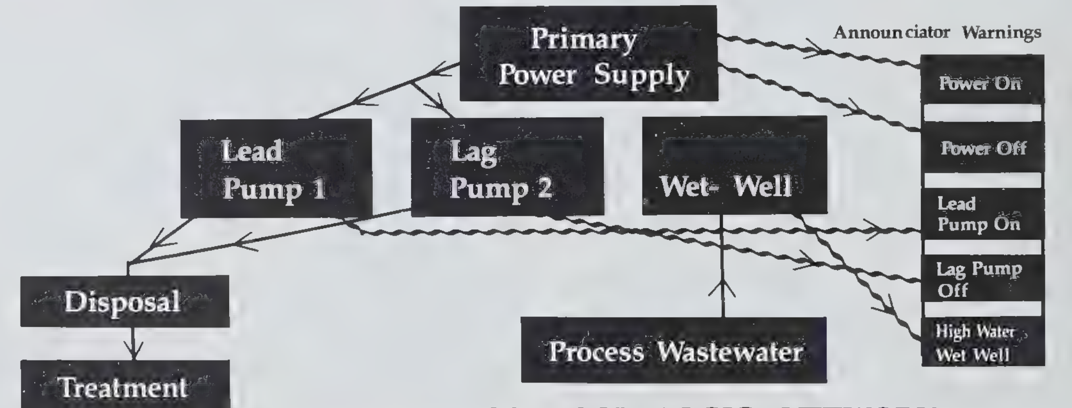
Just listening to a motor or pump operate every day, gives the observer a 'sound' database upon which to base future observations and judgments. For example, is a bearing beginning to sound noisy or a check valve chattering needlessly, providing advance warning of a possible major malfunction?

### Control System Logic

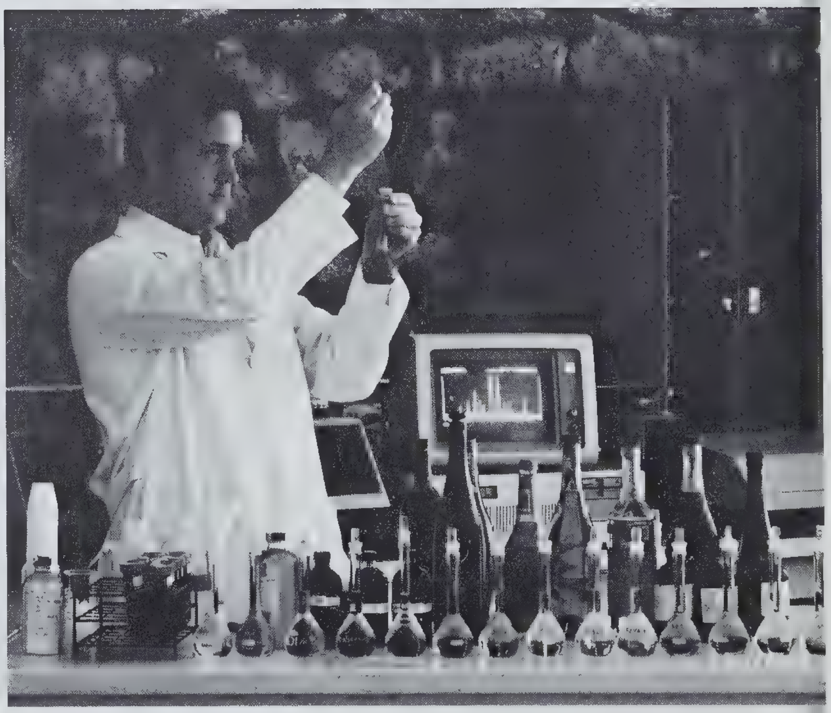
From the winery's standpoint, the Production Supervisor is the best source for control system logic input during the winery design phase. Control systems are easier to retrofit after a winery has had operational experience and can identify the data feedback needs for the weak links in the production and utilities systems.

No one can afford the luxury of having an observer gazing at a panel full-time. Therefore, a system malfunction must be translated into an audio or visual alarm that one or more employees will see or be able to hear. For example, a malfunction in the master refrigeration/coolant system should be communicated to a responsible maintenance person immediately to prevent an unwanted rise in fermentation temperatures.

A good way to focus on the most important winery production and utility functions, and to sift out the data inputs that are critical, is to map the various networks of related and unrelated processes using a simple box and node system, similar to a program logic net-



TYPICAL CONTROL LOGIC NETWORK



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work in computer programming and simulation modeling.

While an electrical engineer with a control/instrumentation specialty can perform the control logic exercise, the winemaker or production manager can conduct an independent analysis, using the design professional at a later date to help create the optimum system in terms of cost, simplicity and reliability. A possible control logic network is shown in Figure I for a wastewater, duplex-type pump station.

### *Remote Locations*

The most urgent need for operational information and display is for water or wastewater systems that are remote from the winery. Certainly for a remote wastewater system with a 'zero discharge' requirement, a high water alarm in a holding pond or tank is a necessity. Water level status in potable water storage tanks is also critical for winery process functions and, in many instances, for fire protection.

Common waterworks design provides a one or two day water storage reserve in the tank or pond structure, so that short-term water supply malfunctions can be rectified without impairing winery production functions.

### *Instrument Environment*

While instrument packages can be housed in specially protected enclosures (heatstrips, dehumidifiers etc.), it is usually prudent to locate the more delicate electronic components inside the winery structure, where environmental conditions are moderated and temperature extremes are rare.

It is always possible, in an adverse environment, to place a simple relay switch and signal transmitter within a standard enclosure, to be relatively sure that the equipment will function faithfully for a long period of time.

Your design engineer will specify equipment that can withstand the conditions to which it will be subjected over the life of the project. Understanding the effect of environmental conditions on control instrumentation may prevent a future disaster should a well-meaning cellar worker try to steam-clean an annunciator panel.

Picking an annunciator is much like the love-hate relationship you develop with the dashboard (instrument panel) in your automobile. The liquid emitting diode (L.E.D.) or analog array is usually telling you how negligent you were in not buckling your seatbelt or leaving your headlights burning.

The annunciator panel for a winery can be displayed with white backlighted apertures, with the function or malfunction displayed in black letters or, more dramatically, with colored apertures for green (OK), yellow (warning) or red (trouble). An audio horn or bell and a flashing light are usually included to signal malfunctions.

By far the best electronic feature to appear in recent years is the automatic telephone dialer. This device can be preprogrammed with several messages to be given to as many as four discrete telephone numbers in sequence. Also, the dialer will not stop its dialing sequence until it receives a voice response (a person or answering machine). The smart auto-dialer programmer will put his/her name last in the sequence to reduce the likelihood of a 4:00 a.m. call to correct an abrupt rise in fermentation temperatures.

### *Other Control Systems*

I have reserved for another column the more exotic controls and instrumentation associated with winery fire protection and security systems. I receive 4 to 5 visits/year from fire/security sales persons, so I assume that this branch of data collection and dissemination is well covered.

*David Storm is a Consulting Civil/ and Sanitary Engineer and Owner of Winters Winery.*

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# Economics of Hillside Vineyard Development

**Existing terrain and ground cover determines the extent of site preparation.**

*Nancy Rosner and Eddy Szyjewicz*
*DeVine Consultants*

The most common question concerning hillside vineyard development is, "How much does it cost?" Unfortunately, there is no simple answer. Development costs vary tremendously, making it impossible to offer a single figure. Many factors contribute to these fluctuating costs, each of which must be considered before a realistic estimate is determined.

### Economy of Scale

Due to the nature of land in the mountains, it is difficult to find large patches that are not too steep or irregular to farm. Although many notable exceptions do exist, most mountain vineyards range in size from 20 acres down to one or less.

A key consideration in determining per/acre costs is economy of scale. Unit costs will be higher when purchasing 300 stakes and 600 emitters for a ½-acre vineyard than when purchasing 13,000 stakes and 26,000 emitters for a 20-acre development.

Furthermore, the full cost of certain items such as a well or a tractor must be absorbed whether the vineyard is one or 20 acres. Apportioning such large expenditures over multiple acres reduces per/acre costs significantly.

### Surface to Volume

Another way in which vineyard size directly influences cost/acre involves the concept of surface to volume. If a deer fence is required or a perimeter road must be cut, the number of feet/acre, and therefore cost/acre, grows geometrically as the size of the vineyard decreases. As an illustration, 800 feet of fence is needed for a single acre while 8,400 feet, or only 420 feet/acre, will fence in 20 acres.

### Degree of Quality

The degree of quality influences costs at every step. Spending more does not necessarily guarantee improved quality, but spending less usually ensures decreased quality. Some operations that are poorly represented by a cost/acre evaluation may be more accurately viewed on a different basis.

An inexpensive, but inadequate trellis system, or an inexperienced pruner at a low-wage results in lower costs/acre. But they are also almost certain to reduce returns to an even greater degree. In such cases, a ratio of dollars spent to dollars returned might be a more representative criterion.

### Aesthetic Considerations

Mountain vineyards often are more than just economic entities. Many owners view their vineyards as picturesque landscapes as well as sources of grapes. Additional time and consideration (and therefore expense) is afforded such vineyards.

While the cost increases are easily recorded on paper, the aesthetic benefits certainly are not. Attention paid to form in addition to function affects costs. Decisions of taste, such as the selection of a type of grapestake that may cost 50% more than other types, can alter total outlay significantly.

### Site-Specific Variables

The location of a specific vineyard dictates certain practices or results in a set of conditions that may influence expenditures to a large degree. Heavily wooded terrain, large rock formations, steep slopes, or terracing will increase bulldozer rates quickly. Dynamite may even be necessary.

Sometimes very steep, unplantable areas break up useable acreage, resulting in a number of smaller vineyards. This leads to higher costs due to inefficient surface to volume proportions and because it takes time to transport people and equipment from one vineyard to another.

Often a vineyard must be laid out in a certain direction to reduce erosion or facilitate tractorability. Such restrictive configurations may result in more rows, and more rows means more endposts, wire attachments, irrigation risers, tractor turnarounds, etc. Poor accessibility increases shipping costs and may even preclude commercial deliveries.

A seemingly endless list of site-specific variables inherent to hillside vineyards may confound the viticulturist striving to adhere to fixed costs.

### Comparison of Two Vineyards

Projected costs over a three-year period for development of two hypothetical vineyards are found in Table 1. While excep-

*Table 1: Hillside vineyard development costs for two hypothetical vineyards. All costs include materials and labor*

| | **Vnyd-A** | **Vnyd-B** |
|---|---:|---:|
| | **(dollars/acre in 1987)** | |
| Clearing | $000 | $1,150 |
| Subsoiling | 345 | 1,150 |
| Fertilizer | 316 | 460 |
| Erosion Control | 989 | 2,806 |
| Fencing | 2,053 | 4,600 |
| Layout | 391 | 581 |
| Planting | 920 | 3,191 |
| Irrigation | 1,610 | 2,553 |
| Trellis | 2,678 | 5,830 |
| Training & Pruning | 1,438 | 2,012 |
| Reality factors | 3,450 | 5,750 |
| **Totals** | **$14,190** | **$30,083** |

tional circumstances might further skew the costs, these numbers represent a broad range of realistic expectations given relatively normal situations.

Table 1 does not include the cost of land (an extremely variable factor), nor does it include depreciation costs or interest on loans. Rather, the numbers offer a practical guide, indicating direct, out-of-pocket expenses. Costs include materials and labor (calculated as a combination of equipment and hand work).

Vineyard-**A** was a 20-acre meadow that benefited from an economy of scale, a favorable surface-to-volume ratio, and a relatively easy-to-farm topography.

Vineyard-**B** was a steep, heavily forested, 1-acre site. Conditions required a more expensive development regimen, resulting in a considerably higher cost/acre.

While any vineyard development project that employs sound viticultural practices must encompass certain basic steps, the order and even the nature of these individual tasks can vary considerably. Major considerations for some projects may be trivial or even nonexistent for others.

Regardless of whether a mature vineyard will be irrigated or dry-farmed, newly planted vines require water for proper development. Hook-up to a non-metered commercial water supply adds nothing to costs. Developing an existing spring is a moderate cost. Drilling three dry well holes and then building a reservoir for surface water is expensive.

Knowledge of neighboring water supplies, if any, should yield an estimated cost for a specific site. Water sources were already available for both vineyards **A** and **B** when the lands were purchased.

### Clearing

The ideal site could require little or no land clearing as was the case with Vineyard-**A** where pasture land was converted to vineyard. Conversely, negotiating the difficult topography in Vineyard-**B** created a major expense.

### Subsoiling

Deep ripping, though often ignored, provides myriad benefits and was performed in both sample vineyards. However, the task was fairly easy in vineyard-**A** because of soft pasture land, while rocks and tree roots slowed the operation in vineyard-**B**, which incurred the additional expense of removal and disposal of the debris.

### Fertilizer

As soils are variable, so are fertilizer needs. Most vineyards benefit from at least some soil amendments. Occasionally, large volumes of fertilizer are required to correct gross deficiencies, pH imbalances, or land cuts. Mineral nutrition for young vines and long-term vineyard needs should be considered.

Vineyard-**A** demonstrated low needs while vineyard-**B** suffered moderate deficiencies. Costs shown reflect materials, distribution and discing.

### Erosion

Most hillside vineyards are subject to some degree of erosion. Establishment and maintenance of an appropriate ground cover is required at the very least. Severe conditions may demand installation of retaining walls, culverts, drainage tiles and other forms of erosion control measures. Repairing a slide after the fact can be extremely costly.

Vineyard-**A** had an established grass cover, few noxious weeds and good drainage. Vineyard-**B** required seeding, extensive weed control and subsurface drainage measures.

### Fencing

Hillside vineyards often face a deer problem and require fencing. An electric fence was considered for vineyard-**A** but it became apparent that it was more cost-effective to erect a deer and orchard field fence with graduated mesh which would afford some rabbit protection as well.

Although both vineyards constructed the same type of fence, vineyard-**A** experienced lower costs due to a highly favorable surface to volume ratio and an easier installation made possible by less rugged terrain.

### Layout

Although less expensive (and less accurate) methods are available, both sample vineyards had a commitment to quality; therefore vine/stake placement was determined via precision transit-levels. Decisions at this step, including vine and row spacing and row orientation, had a major impact on the remainder of the projects.

The number of vines/acre and, to a lesser extent, the number of rows/acre affect the cost of every operation—not only in terms of development but also future maintenance. Close spacing would increase costs considerably. Performing any operation 2,000 times/acre is much more costly than 500 times/acre.

In both vineyards, the rows were moderately spaced to allow for tractor accessibility. Vine spacing was within the normal range dictated by hillside environments. Vineyard-**A** has 544 vines/acre on 8x10 foot spacing and 10 rows/acre. Vineyard-**B** has 726 vines/acre on 6x10 foot spacing and 30 rows/acre.

***Individual sacks of fertilizer rather than bulk deliveries increase the cost of remote and inaccessible mountain vineyards.***

### Planting

Planting material ranges from field-budded rootstock to dormant bench grafts. Regardless of the form selected, sound viticultural practice dictates use of certified virus-free stock.

The risk of opting for own-rooted vines may be acceptable in some remote, isolated sites. In such cases, eliminating nursery costs and the expense of rootstocks reduces planting costs significantly.

Vineyard-**A** was planted with cuttings placed directly in the field, while vineyard-**B** was planted with rootstocks. Costs include labor and material for replanting vines that did not take. Note that vineyard-**B** required 33% more vines/acre than the slightly wider-spaced vineyard-**A**.

### Irrigation

There are only two choices of watering regimes for hillside vineyards: dry-farmed or drip irrigation. Both sample vineyards installed drip systems. The number of vines, rows, and block sizes all affect drip system costs.

For vineyard-**B**, items associated with the number of vines, such as emitters, were increased by 1.3X over vineyard-**A**, while materials associated with the number of rows, such as riser assemblies, were tripled. In addition, vineyard-**B** installed two emitters/vine.

Vineyard-**A** had sufficient water to create two-acre blocks. Vineyard-**B** established three separate blocks within the single acre due to insufficient volume, thus increasing labor and materials expenses for gate valves, air vents and underground lines.

### *Trellis*

There are many diverse trellis systems, ranging from freestanding grape stakes to complex structures with state-of-the-art hardware and many components and wires. There is a wide range of acceptable stakes, endposts and hardware, and equally varied alternatives for installation.

Spacing determines stakes/acre, the number of rows determines endposts needed, and terrain plays a major role in affecting installation costs. Both vineyards have similar T-trellises. Vineyard-**A** selected fir stakes and lodgepole pine endposts, while vineyard-**B**, more concerned with aesthetics, chose hand-split redwood stakes with matching endposts. Costs for metal stakes range between the two.

***Split redwood grape stakes, while not economically justified, yield an aesthetic return.***

### *Training and Pruning*

The wide array of training systems and the skill and speed of laborers create major differences in financial outlays for training and pruning. The number of visits/vine necessary during the training procedure and the amount of time required to establish the framework are major components of training expenses.

Vines/acre is a parameter particularly apparent during these operations. Both vineyards were trained to bilateral cordons. More complex systems, such as quadrilateral cordons, require additional financial outlay.

### *Reality Factors*

This category encompasses two types of expenses: those which can be anticipated and those which cannot be specifically identified, but should be expected. Familiarity with viticulture and with a specific locale enables a vineyardist to expect certain pests and diseases.

Certainly there will be annual expenses for control of powdery mildew. A vineyard located in a frost hazard area must plan for frost control measures. It is likely there will be costs for control of birds, rabbits, and gophers.

Delays in the development process due to foul weather and equipment breakdowns should be calculated into the budget, as should subsequent repairs. Of equal importance, but more difficult to predict, are the unexpected expenses such as natural disasters (freeze, flood or fire), unnatural disasters (tractor blight, disease and pest infestations), and freak weather conditions (golf-ball sized hail or tornado-like winds). Both vineyards experienced many reality factor expenses, although vineyard-**A** suffered from fewer problems.

***Though difficult, cost projections should allow for unexpected expenses.***

### *The Bottom Line*

Some commercial vineyards have spent $12,000–$15,000 per acre (in today's dollars) to establish production of reasonable quality wine grapes. Other commercial vineyards have spent $50,000/acre. Most vineyards vary appreciably between these figures (though usually closer to the middle–lower end).

We believe the saddest vineyards are those we refer to as '80/20 vineyards'. In these vineyards, 80% of the development costs have been spent, but the vineyard is producing a mere 20% of its capacity.

The extra 20% of the costs is usually for the fine points too frequently overlooked to take the vineyard to its maximum output. The 20% would undeniably be money well spent, as this portion often represents the most favorable part of the investment.

### *Conclusions*

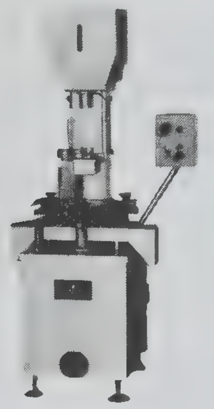
Vineyards **A** and **B** are hypothetical examples demonstrating the substantial variations that occur in hillside vineyard development. Establishment costs are determined by two factors: environmental conditions and cultural decisions.

When conditions are more difficult, the former creates unavoidable expenses, contributing to high land preparation costs. A more favorable environment enables the vineyardist to reduce or eliminate expenditures for certain operations.

While cultural decisions are, to a certain degree, also dictated by the environment, these types of expenses often arise from matters of taste or the pursuit of quality.

Since every hillside vineyard is unique in both its site and its ownership, projected expenditures should be calculated to match a given situation as closely as possible.

It becomes apparent from examining the many aspects of hillside vineyard development economics that there is no single per/acre cost. The best way to approach installation of a vineyard is to assess your specific situation, without shortchanging your venture, to determine your individual budget.



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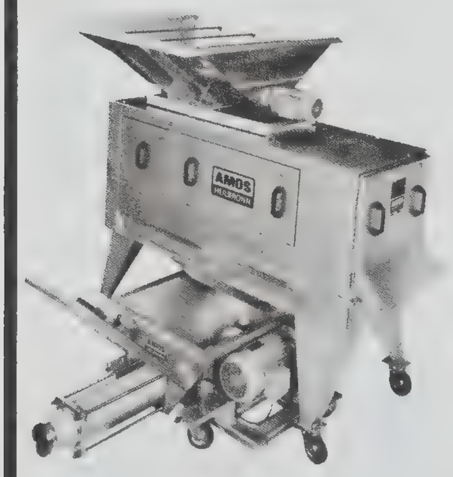

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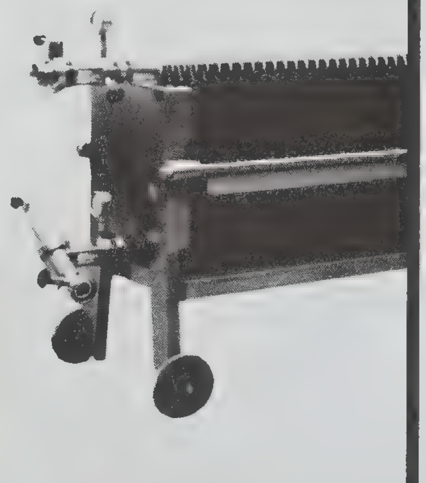

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# How / Why to Remove Leaves

Leaf removal offers substantial benefits to both grapegrowers and winemakers. For the grower, there is improved spray penetration and improved yields due to Botrytis control. For the winemaker, there is the opportunity to improve wine quality through improved fruit composition. Red wine color and body can be increased and herbaceous character and excessive acidity eliminated.

Steve Smith reported trials for New Zealand's Ministry of Agriculture and Fisheries (MAF) Tech (North) in the 1987 growing season on Sauvignon Blanc, Chardonnay and Cabernet Sauvignon at Te Kauwhata, Marlborough and Kumeu in New Zealand. These trials confirmed that leaf removal increases fruit exposure from about 4% to 60% using machines, and up to 90% with hand leaf removal. There was no negative effect on yield.

With Sauvignon Blanc vines badly affected by Botrytis, yield was increased 30% as timely leaf removal reduced Botrytis bunch rot. Leaf removal also increased the level of terpene aroma volatiles in Sauvignon Blanc juices. Concentrations of some terpenes, C6 alcohols and ester acetates were increased. Experienced wine judges found that wines from leaf removed vines appeared to have less herbaceous/pyrazine-like character.

Leaf removal, occuring between four weeks post flowering and the onset of veraison, had little effect on fruit sugar concentration, but dramatic effects on acidity. Titratable acidity was reduced up to 0.12 g/100ml, largely due to a reduction in malic acid. Leaf removal after veraison did not reduce acidity or improve botrytis control.

For Cabernet Sauvignon wine, there was a marked increase in anthocyanins and total phenolics due to leaf removal.

Smith reported trials showing that effects of leaf removal on °Brix, TA, anthocyanins, and phenolics seem to occur only when it is done pre-veraison, in stage I of berry development. The data also indicates that, in New Zealand's cool climate, the extent and duration of pre-veraison cluster exposure will determine the extent of change in pulp and skin chemical composition.

### *What are the Effects?*

Of equal importance, according to Smith, is the apparent effect of cluster exposure on aroma/flavor of grapes, which will ultimately influence wine style. If exposed fruit has higher terpenes in the skins, this may affect decisions on skin contact or high solids fermentation.

If a grower removes leaves at flowering and gets good spray penetration for botrytis control, will renewed vegetative growth and cluster shading contribute some of the herbaceous aromas desirable for a particular style of Sauvignon Blanc?

Smith's trials found that the best time to remove leaves, in order to insure good fruit exposure and little regrowth in the fruit zone, is 3 to 6 weeks prior to veraison. The mechanical leaf remover achieved the best cluster exposure when vines were plucked at flowering, and then again one week prior to veraison.

Smith suggests that leaf removal may have different affects on aromatic profiles depending on the region and vineyard mesoclimate in which it is practiced, and on the grape variety. Changes will also depend on the proportion of fruit exposed to direct sunlight, diffuse sunlight or full shade. Evaluation of cluster exposure requires refined analysis of the different levels of light that clusters receive (Smart 1985b).

Canopies with vertically trained shoots and a distinct cluster zone are easiest to leaf remove. Where shoots are not uniformly aligned, there may be a need for prior shoot trimming to achieve access. Mechanical leaf removers require good straight shoot positioning to prevent cluster and replacement cane damage.

Dr. Richard Smart at MAF Tech (North) describes the benefits of leaf removal as follows: one or more leaves are removed from each shoot in the fruiting zone. This practice can dramatically increase bunch exposure to sun and wind and reduce relative humidity. Since only a small proportion of leaves per shoot are removed, the canopy's capacity for photosynthesis is not significantly reduced.

As well as reducing botrytis, important improvements occur in fruit composition. These can include an increase in sugar, reduction in malic acid and increases in color, phenolic content and fruit flavor.

Experiments in 1982 in New Zealand investigated leaf removal effects on Riesling vines. Leaf removal was shown to increase sunlight and wind speed in the bunch zone and to de-

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crease bunch rot from a 28% to 6% incidence when carried out prior to veraison.

### Hand or Mechanical Removal?

Dr. Smart adds that leaf removal does not completely overcome problems of overly dense grapevine canopies, but it can yield cost-effective improvement. While hand leaf removal is tedious and expensive, tractor-mounted machines can perform effective leaf removal cheaply.

Leaf removal may be appropriate in many New World viticultural regions where grapevines are grown in sites which promote excess vigor. In such vineyards, overly vigorous canopy growth results in excess shading of both leaves and clusters. The effects of shade on yield and quality have been well established over the past two decades (Smart 1985b).

Leaf removal in the cluster zone is a 'remedial' management option to improve cluster exposure. In Europe it has traditionally been used for botrytis control.

Of special interest in cost-effective leaf removal is the Gallagher Leaf Remover, a tractor-mounted mechanical leaf remover, manufactured by Gallagher Engineering in New Zealand. The machine was initally designed by two of New Zealand's largest vineyards and was further developed with the cooperation of the scientists of New Zealand's MAF Tech (North).

### How does it work?

The mechanical Leaf Remover, now available in the U.S., sucks leaves into the path of a cutter blade, while grape bunches are excluded by a carefully designed grill. Only leaves in a 400mm band within the fruiting zone are selected. This allows the remaining leaves to support continued growth, while the benefits of allowing light, air and chemical sprays to penetrate the canopy are secured.

The goal is to remove about half the leaves from the fruiting zone on each vine. The cutting head tilts 45° in both directions enabling unusual trellis designs to be leaf removed.

Complete details of Steve Smith's trials are available in the Proceedings of the Second International Symposium for Cool Climate Viticulture and Oenology (pp 127-133), held in Auckland, New Zealand in January, 1988. The Proceedings are available from *PRACTICAL WINERY VINEYARD*. Cost is $40.00US plus $3.00 (handling and shipping) plus 6% sales tax in California, pre-paid.

To locate your nearest farm equipment dealer selling the Gallagher Leaf Remover, please contact *PRACTICAL WINERY VINEYARD*, 15 Grande Paseo, San Rafael, CA 94903; 415/479-5819 or Vineyard Industry Products Co., Inc., 1070 Airport Blvd., Santa Rosa, CA 95402; 707/538-3100.

**References**

Smart, R.E., Principles of grapevine canopy microclimate manipulation with implications for yield and quality — A review. *Am J Enol Vit* Vol. 36: 230-9, 1985.

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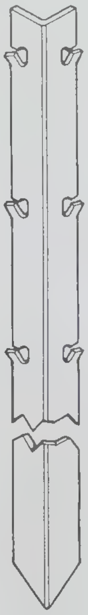

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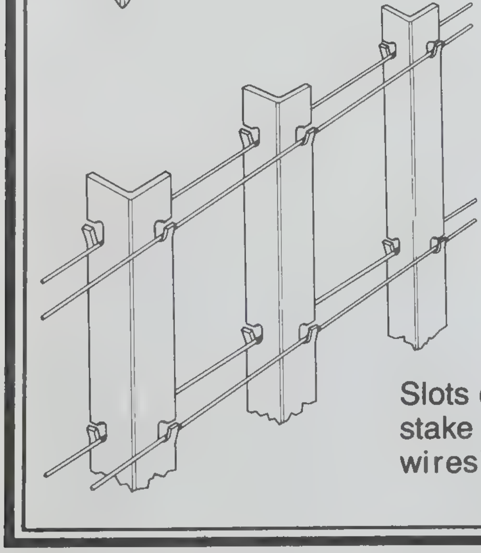

Slots on both sides of stake for moveable wires

For additional information on installations and material contact David Parrish or Rick Aldine at A&P Ag Structures, Inc., 11266 Ave. 264, Visalia, CA 93277, 209/685-8700 or 1-800/344-7273 in CA.

# *Varietal Review:* Merlot

## *Berry Shatter*

It's apparent from conversations with Merlot growers that the most serious problem they face is berry shatter, the failure of grape clusters to set properly. In some vintages, adversely affected vineyards may yield less than 50% of a normal crop.

What's worse, there seems to be little growers can do to avoid the problem, since it is predominately a function of weather conditions during flowering. Extreme heat or heavy rain in April and May can sabotage an otherwise ideal growing season for Merlot.

No one is absolutely sure why Merlot is so prone to berry shatter, but prevailing theory attributes the problem to high vigor. The Merlot vine's ready assimilation of nitrogen in the soil causes photosynthetic energy to flow disproportionately into shoot growth, undermining successful pollination and resulting in deficient flower development.

Tucker Catlin, vineyard manager of Sterling Vineyards, Calistoga, CA., oversees Merlot plantings at several sites in Napa Valley. He has observed that one characteristic of Merlot vines, even in vintages relatively free of shatter, is their marginal development of flower parts.

Catlin theorizes that in years with dry winters (such as 1987), when the vines have an abnormally high nitrate content (due to the relative scarcity of a nitrate reductase), this energy imbalance becomes exaggerated, fully activating the Merlot vine's constitutional tendency to set poorly. In conjunction with untimely heat or rain during flowering, this may produce extensive berry shatter.

Thus, it would seem logical to plant Merlot in sparser soils. Yet, some growers assert that Merlot prospers in rich soils and can successfully carry a large crop. Others contend that the problem of berry shatter may be controlled through the choice of an appropriate clone (Catlin maintains that what are deemed to be different Merlot clonal types are, in fact, merely clonal *selections*).

The best guess is that restricting vigor contributes to the likelihood of good berry set. As Don Polsen of Lake Sonoma Winery points out in the accompanying PWV survey, this premise should lead growers to avoid nitrogen fertilization immediately prior to budbreak, since berry shatter may result as much from excessive nitrogen pickup as from excessive heat during flowering. Installation of a cover crop can also be helpful in absorbing excess nitrogen.

Where Merlot is grown on rich soils that promote vigorous vegetative growth, canopy management procedures allowing for greater light penetration into the vine will produce enhanced bud fruitfulness, thus mitigating potential crop loss from berry shatter.

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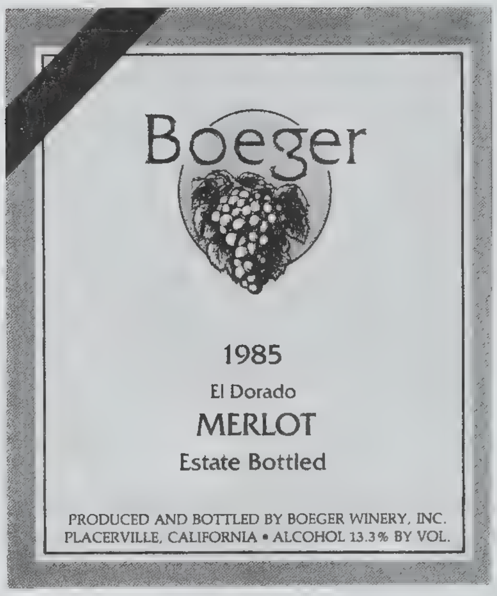
*Winemaker: Greg Boeger*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**Wine Style:**

Our Merlot is soft, rich, and fruity, with low tannin for immediate drinkability. With ageing, the wine becomes even softer, with slightly lower fruit but more complexity. We blend about 15 to 20% Cabernet Sauvignon into our Merlot to add some body and complexity, and to increase the volume of Merlot. The estimated cellaring potential of this wine is 5 to 7 years.

Merlot's best characteristics as a grape are regular production of 3 to 4 tons, little rot or mildew, and early ripening. As a wine, Merlot is noted for its accessibility and shorter cellaring time before becoming drinkable. I recommend our Merlot with most lamb dishes, including rack of lamb and roast lamb.

**Grapegrowing**

We own 5.5 acres planted to Merlot located on steep hillsides (10 to 20% grade) and hilltops of rocky clay loam (red soil) topsoil of 2 to 4 feet with clay and shale subsoil. Elevation is 2300 feet, and exposure is southwest. Our vineyard is in a warm region II to cool region III. Sprinkler irrigation is done 3 to 4 times/year at a 3-inch application, and is monitored by a neutron probe program.

The vines were planted in 1972 and 1980 with 8x12 spacing on AXR-1 rootstock for its phylloxera resistance and its ability to handle irrigation better.

The 1972 planting is cane-pruned, since that was the recommended system at the time. The 1980 planting is cordon-pruned, since today either system is recommended, and cordons are easier and cheaper to maintain. Canes are pruned to four canes and eight spurs, depending on vigor; cordons are pruned to 12 to 14 spurs. Average yield is 3.5 to 4.0 tons/acre.

We occasionally fertilize the vineyard. Nitrogen (usually urea or ammonium nitrate) is used every few years at 60 lbs/acre. Triple super phosphate is added for deficiency in red soils and boron is applied every few years.

The only viticultural problem with this varietal at our site is occasional berry shatter.

Grapes are hand-picked from September 10 until October 1. Our grapes are fairly ripe, between 22° and 24° Brix, with 0.60 to 0.80 g/100mL TA and 3.2 to 3.5 pH. The Cabernet Sauvignon is harvested later, in mid-October, with the same harvest window.

### Winemaking

We add 50 ppm $SO_2$ at crush. Tartaric acid is added at crush to achieve 0.80 to 0.85 g/100mL TA. We inoculate with liquid-culture Fr. Red or active-dry Epernay Champagne at 1 to 3% inoculum. Fermentation lasts 5 to 7 days at 75 to 85°F. The cap is punched down twice daily for 10 to 15 minutes throughout fermentation. We press when the must has adequate color, between 7 to 2° Brix.

We encourage malolactic fermentation by inoculation with a blend of PSU-1 and ML-34 at mid-fermentation. Completion is encouraged by keeping $SO_2$ low and by keeping the wine together in tanks. Malolactic normally finishes by the following spring.

First racking off the yeast lees occurs within 5 days after

## *Merlot Blending*

Most producers of Merlot in California agree that the variety benefits from, perhaps even requires, blending with either Cabernet Sauvignon or Cabernet Franc—or both. There is less agreement on which of the aforementioned varieties works best in this role.

"Merlot needs help," states John Kongsgaard, winemaker at Newton Vineyards, St. Helena, CA, "partly with aroma and partly with finished tannins." Newton has blended 25% Cabernet Franc into its Merlot since the first vintage in 1979. Since 1983, they have added no Cabernet Sauvignon to the blend.

"Cabernet is too domineering to be a mate for Merlot," Kongsgaard argues. "Cabernet Franc is much more like Merlot than Cabernet is. Merlot is all middle with no finish. Cabernet Franc has no middle, but it adds a spicy aroma and tannins in the finish." He also believes that Cabernet Franc contributes to Merlot's ageability.

At Duckhorn Vineyards, St. Helena, CA, winemaker Tom Rinaldi is reducing the role of Cabernet Franc in the winery's Merlot blends (Duckhorn produces both a Napa Valley and Three Palms Vineyard Merlot). This is due both to the increasingly high cost of Cabernet Franc grapes in Napa Valley and to the fact that Rinaldi has been disappointed with the performance of certain Cabernet Franc vineyards he once had high hopes for. The proportion of Cabernet Franc in Duckhorn's Napa Valley Merlots has ranged between 5% and 20% (to date Cabernet Franc has not been employed in the Three Palms bottlings).

"Cabernet Franc does lend something," Rinaldi says, "but it's always something different. I really don't have a complete handle on the variety, because it's so unpredictable. It can lend color, herbaceousness, tannin and bigness of structure, but the color varies incredibly, it's very affected by any little change in microclimate, and it doesn't add to the middle palate."

Rinaldi believes that the use of Cabernet Sauvignon is essential to provide strength and longevity to Merlot, but he occasionally regrets having to employ it (the winery blends 25% Three Palms Vineyard Cabernet Sauvignon into their Three Palms Vineyard Merlot and has used as much as 20% Cabernet Sauvignon in their Napa Valley Merlot).

"Merlot is real nice out of the box," Rinaldi says, "but it doesn't last well. It ages fast and doesn't retain its charm. Cabernet provides an insurance policy. On the other hand, Merlots can be so nice on their own that you sometimes almost kick yourself for blending in those other grapes."

Rinaldi's ambivalence about blending results from Duckhorn's reputation for making sturdy, long-lived Merlots, wines that will age gracefully for a decade or more. "We have a motto around here," adds Rinaldi. "We want Merlot to be Merlot and Cabernet to be Cabernet. Yet we're trying to make a Merlot for everybody—one that can be enjoyed in the near term and will also age well in the cellar. It's a balancing act."

At Rutherford Hill Winery, Rutherford, CA, winemaker Jerry Luper is decreasing the percentage of Cabernet Sauvignon in the winery's Merlot blend, while slightly increasing the complement of Cabernet Franc. In the past, Rutherford Hill Merlot has contained 15% to 24% Cabernet Sauvignon. Forthcoming vintages will be 85% to 90% Merlot, with the balance split evenly between Cabernet Sauvignon and Cabernet Franc.

"The purpose of the change," explains Luper, "is to produce a rounder wine that conforms to the public's current tastes. Cabernet gives too much of a tannic edge, while Cabernet Franc adds intensity to the nose."

Luper maintains that the ageability of Rutherford Hill Merlots will not be compromised by this change in the percentage blending mix, because barrel ageing in the winery's cool, humid caves allows for retention of the wine's abundant fruit.

Robert Keenan Winery, St. Helena, CA, is another Napa Valley Merlot producer that has shifted its approach to Merlot vinification. "We're trying to make a more elegant, drinkable Merlot than in the past," says Rob Hunter, winemaker. "The consumer's palate has changed, people aren't cellaring wines for ten years.

"We're picking sooner, fermenting cooler with less pump-over and doing longer maceration. The result is a fruitier, less tannic Merlot. I'm nuts about jammy fruit. We want to make ripe, intense Merlots with bright, mouthfilling fruit, but with less tannin."

Hunter's formula for effecting this style precludes a significant role for Cabernet Sauvignon—he used only 4% in the 1984 Merlot and none in the 1985 (as much as 12% was employed in earlier vintages). Hunter has yet to add any Cabernet Franc to Keenan Merlot, although the winery obtains Cabernet Franc grapes from three sources (including its own 1-acre block) which Hunter uses for blending into Keenan Cabernet Sauvignon.

"Cabernet Franc adds initial fruit in the nose and mouth, but it falls off," adds Hunter. "I'm not really wild about it on its own. If we used it with Merlot, it would be to accentuate the fruit, to highlight and shade the wine."

pressing. We rack three more times by January 1. The wine is aged in 2 to 4-year-old French oak and some American Bluegrass for 6 to 12 months. Barrels are topped every two weeks. We keep about 15 ppm free $SO_2$ during barrel-ageing.

The wine is fined with gelatin at ¼ lb/1,000 gal prior to bottling. We filter three times: first with medium pads, then with tight pads, and finally sterile filtration to bottle.

Cabernet Sauvignon is vinified the same as the Merlot. Blending usually takes place just prior to bottling. At bottling, the wine has 25 to 30 ppm free and 100 to 125 total $SO_2$. The wine is bottle-aged 4 to 6 months prior to release.

### *Tasting Notes:*

**Boeger 1980**

*Color/Aroma:* Medium red-brick, slight amber hue, slight cloudiness; mellow, cherry-berry aromas, orange peel, some oak, plummy, green sapling, herbal, caramel.

*Flavors:* Soft, round, full fruit flavors, lots of currants, berries, cherries, ripe, herbaceous, good integration of fruit and oak.

*Balance/Finish:* Medium-long finish, slightly hot, smooth, good balance and acid.

**Boeger 1984**

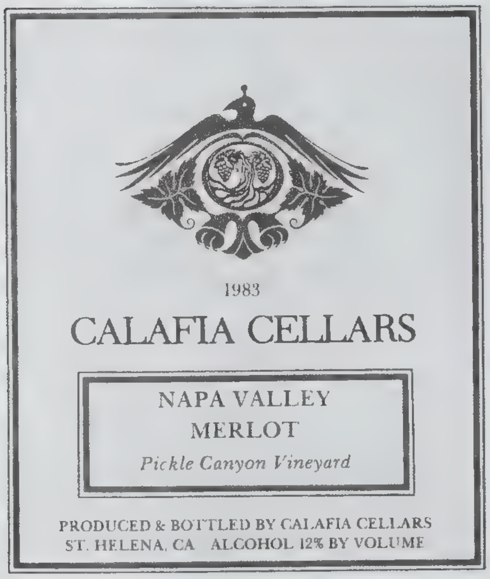
*Color/Aroma:* Very dark garnet; herbal, oak, candied cherries, burnt toast.

Flavors: Full, rich, harmonious fruit/oak flavors, chocolate.

Balance/Finish: Good balance, tannic, should age well.

## CALAFIA CELLARS

*Winemaker: Randle Johnson*


1983
CALAFIA CELLARS
NAPA VALLEY
MERLOT
Pickle Canyon Vineyard
PRODUCED & BOTTLED BY CALAFIA CELLARS
ST. HELENA, CA ALCOHOL 12% BY VOLUME

*"Merlot is prone to shatter and irregular set."*

### *Wine Style*

We pick at optimum flavor, use small fermenters, and employ careful cap management by punching down in order to make a wine that has mountain intensity and complexity, but isn't too overpowering or tannic. Merlot can achieve the complexity of Cabernet with a slightly lighter style and with earlier drinkability.

We pick at a mature Brix and ferment so that there is a maximum skin contact/volume ratio for extraction. Gentle punching of the cap minimizes harshness and big, angular tannins. Alcohol is moderate (13.1% to 13.6% depending upon time of picking), as is the acid level.

On release, the wine can taste a little rough and youthful, with the fruit closed in, even though it receives a year of bottle ageing. When mature, it will have a very round, full, rich bottle bouquet and varietal character, with mountain nuances and complexity. Estimated cellaring potential is 8 to 15 years.

Our Merlot goes well with lamb, veal, roast beef, steak, pork roast, chops, and red-sauce pastas like spaghetti and ravioli.

### *Grapegrowing*

Grapes are purchased from Pickle Canyon Vineyard, which is on Mt. Veeder. It's a terraced vineyard at 1,600-foot elevation, with a 15% southeast-facing slope. The vines were planted in 1973 on AXR-1 rootstock, spaced 7x12 for 470 vines/acre.

Since the soils are loam, the vines don't require the extra vigor supplied by St. George rootstock. Topsoil is a loam with little rock and extends 30″ to 36″ deep. It is very friable and root penetration is very easy. The subsoil is mostly shale. In some areas, bedrock is struck at 4 to 5 feet. There also are pockets of volcanic ash from Mt. Veeder.

The vineyard was fertilized in its early years to help establish it. Nitrogen was added along with phosphorous. Lime is added to increase soil pH and zinc is added by foliar spray.

The vines are on a T-type trellis, with one cordon wire and two catch-wires. Cordons allow for good separation of fruit and foliage, and the top wires allow shade. Shoots receive plenty of light. Each cordon position has two bud spurs. Each vine has about 12 to 14 spur positions depending upon vine vigor. Vines are pruned between December 1 and March 15.

Annual rainfall is 40 to 60 inches, with 2 to 8 inches during the growing season. Drip irrigation is employed. The vines receive 3 or 4 waterings of ten gallons each. Frost damage is rare, as cold air drains rapidly down the hillside.

Bud break occurs between March 20 and April 7, and berry set during the first week of June. Veraison is between July 20-25. A sulfur dust application is made at 2 to 3 inches of shoot growth, followed by a Bayleton wettable spray at 12 to 14 inches. There are 2 or 3 more dustings as required by weather conditions up to August 1.

Average yield is 2.5 tons/acre. The main problem with Merlot is that it has trouble setting adequate fruit levels and is prone to shatter and irregular set. Rain or heat at bloom can greatly reduce the crop. Therefore, no crop thinning is necessary. The clusters usually are loosely filled, so mildew and bunch rot problems are almost nil.

### *Winemaking*

The must is inoculated with active-dry Champagne yeast at 2 lbs/1,000 gal. Fermentation lasts 5 to 8 days, at 75 to 80°F throughout, in small, open-top fermenters that rarely require temperature control. We inoculate for malolactic with a proprietary Leuconostic species. It occurs simultaneously with alcoholic fermentation, completing 7 to 10 days later.

Cold stabilization is done in connection with pH corrections after malolactic and before barrel ageing. Acid is adjusted to 0.71 TA.

The first racking occurs after malolactic completion. We rack once a month for the first three months, then once every six months. Barrels are topped monthly.

The wine, which is 100% Merlot, is aged 18 to 24 months in a combination of new and used barrels—primarily Nevers, with some Alliers and Vosges. Half are new, the rest are 2 to 3 years old.

The wine is fined with egg whites at 2 lbs/1,000gal before bottling. A tight pad filtration follows racking off the egg whites. $SO_2$ adjustments to 30ppm free are made at each racking and also at bottling. Total $SO_2$ at bottling is 80 to 100 ppm.

### *Tasting Notes:*

**Calafia 1979**

*Color/Aroma:* Medium-dark brick red; faintly smoky, strongly herbaceous, some redwood character.

*Flavors:* Cherries, dill, cedar, plums.

*Balance/Finish:* Generally good balance, although a bit too much wood; somewhat sweet finish.

**Calafia 1981**

*Color/Aroma:* Clear garnet; berries, cherries, spice, dill.

*Flavors:* Fruity, complex, cherries, peppery.

*Balance/Finish:* Well-balanced, long finish, needs time.

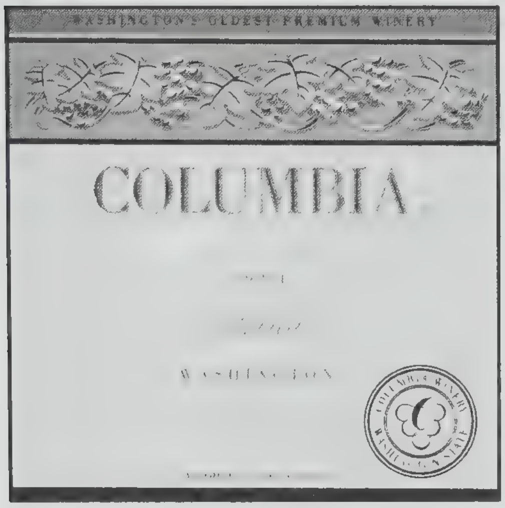
## COLUMBIA WINERY

*Winemaker: David Lake*

### *Wine Style*

For our Merlot, we seek a balance of Brix, TA, pH, and physiological ripeness to produce balanced wine. Emphasis is on vineyard character and on good red wine rather than varietal character.

Fruit from Otis Vineyard produces wine with restrained berry fruit, higher acidity than our other vineyard, Sagemoor, which has two blocks of Merlot. Of those two blocks, one produces typically herbaceous wines and the other more herbal/berry aromas. Of course, these are also varietal characters, but the emphasis is not on varietal character for its own sake.



*"The only viticultural problem is that it could overcrop."*

Our 1983 Merlot was balanced according to the above criteria; the 1984 was perhaps a bit overly-tannic. Every year may have a different balance quantitatively. I rely on my experience of red wine to decide what is the best equilibrium. This is often provided by nature, provided that you picked at the moment of best balance.

Upon release, our 1983 Merlot was extremely fruity (berry) with good color and soft tannins—surprisingly, because the acidity was quite good. The 1984 had delicate fruit and good color, was tannic, and developed more slowly. It is drinkable and will improve another 3 to 4 years.

The 1983 will age well and is also drinking very well. The 1984 should develop complex bottle bouquet, delicacy, and length, with flavors of herbs, chocolate, and plums. Estimated cellaring potential of both wines is 10 to 15 years.

I recommend this wine with traditional red meats and game birds such as pheasant, partridge, or grouse. In youth, well-herbed and spiced sauces go well with the tannins.

Merlot's best characteristic is its combination of herbal/berry fruit, good backbone, delicacy of character (not overdone) and its versatility with food.

### *Grapegrowing*

We purchase Merlot from two vineyards, Sagemoor and Otis. Sagemoor is located on west-facing slopes at 800-foot elevation along the Columbia River, while Otis is on a gentle, southwest-facing slope at 1,300-foot elevation in the mid-Yakima Valley. The Sagemoor vines were planted in 1972, the Otis vines in 1970. Both vineyards are planted 8x10 on their own roots.

Sagemoor's soil is sandy loam with a calcareous substrata and a variable 2-foot deep topsoil, while Otis is on deep, very sandy loam with a variable 6-foot deep topsoil. Both vineyards are occasionally fertilized to adjust soil deficiencies when analysis reveals any.

Sagemoor vines are trained to bilateral cordons, pruned to 1 to 3 buds/spur or 35 buds/vine. Otis vines are on a 3 to 5 trunk fan trellis, pruned 1 to 3 bud spurs or 45 buds/vine. Sagemoor's yield is 6 tons/acre; Otis' yield is 3 tons/acre. Crop size is occasionally controlled by shoot thinning and spring pruning.

Sagemoor is irrigated by means of overhead sprinklers to add 20 inches/year of water, and Otis is irrigated by means of 2 to 4 applications in furrows (rills).

Bud break occurs April 15, with berry set about June 15 and veraison around August 1.

Eighty percent of the grapes come from Sagemoor, with 20% from Otis. Sagemoor has exceptionally good air drainage and moderate temperatures (no extremes) as a result of the river's proximity.

The grapes are hand-picked from September 15 through October 15. We determine when to pick based on sugar, TA, pH, taste and appearance of the grapes, and past experience. Our harvest window is 21.5 to 23.0° Brix, 0.70 to 0.90 TA, and 3.1 to 3.4 pH.

The only viticultural problem with Merlot is that it could overcrop if given the chance. Balanced pruning, shoot-thinning, cluster-thinning, and avoiding excessive irrigation or irrigation too late in the season are all ways to avoid overcropping.

### *Winemaking*

We generally add 50 ppm $SO_2$ at crush, although sometimes we'll add none, and occasionally more. In 1983, we added 12 lbs/1,000 gal tartaric to make minor adjustments to the TA and pH.

The must is inoculated with active-dry Champagne or Prise de Mousse yeast at 2% inoculum. Fermentation lasts two weeks and peaks at 85°F. We pump over 3 times/day for 15 minutes. The decision to press is based on Brix and the taste and texture of the wine balanced against its color and acidity.

Malolactic fermentation is often spontaneous, but if not, we inoculate with a mixture of PSU 1 and ML 34 at 5 to 10° Brix or following primary fermentation. If necessary, we can warm the tanks to encourage malolactic to complete, which usually occurs between November and May following crush.

The first racking, off the heaviest lees, takes place before Christmas, before transfer to barrels. We rack 2 or 3 times, in spring, summer, and the following winter.

The wine spends 18 to 25 months in older (3- to 10-year-old) American oak, with a small amount going into new French oak. Barrels are topped every other week.

We attempt to maintain 20 to 25 ppm free $SO_2$ in the wine, and will make infrequent additions when analysis indicates the need. The wine is sometimes fined 2 to 5 months before bottling with 2 to 4 egg whites/barrel. The wine receives a medium-pad filtration at bottling.

The 1983 Merlot contained 24% Cabernet Sauvignon from the Sagemoor vineyard. The final blend was made a couple of months prior to bottling.

The finished wine had 25 ppm free and under 100 ppm total $SO_2$. It was bottle-aged one to two years before release.

### *Tasting Notes:*

#### Columbia 1983

*Color/Aroma:* Clear garnet; berries, American oak, cherries, plums, pine.

*Flavors:* Good balance of fruit and wood, herbs, cherries.

*Balance/Finish:* Well-balanced, good tannins.

#### Columbia 1984

*Color/Aroma:* Medium red; herbal, American oak, closed nose, dill, spice.

*Flavors:* Herbal, tea, clean cherry fruit, light, peppery.

*Balance/Finish:* Lean structure, pronounced tannins, good potential, should age well.

## COVEY RUN

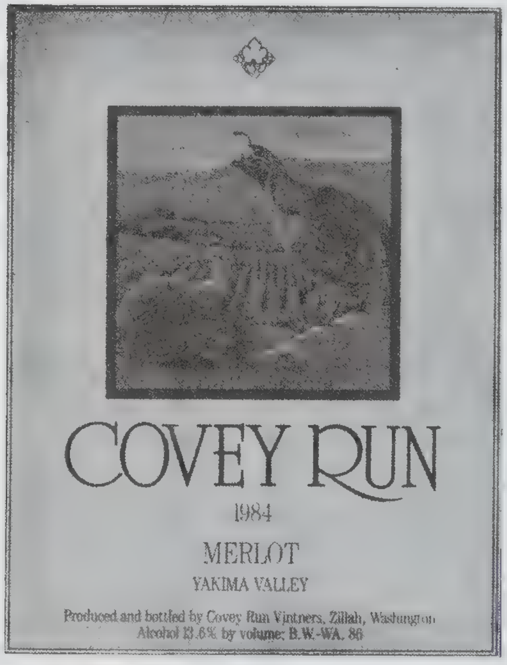
*Winemaker: Wayne Marcil*

### *Wine Style*

Our Merlot has fairly high acid, a moderate tannin level, and a fairly high level of oak. We try to emphasize the berry quality of the grape for a full-bodied wine that is not too austere. We strive for a balance between fruit and oak, tannin, alcohol, acid, and body.

Upon release, our Merlot exhibits lots of oak character, is moderately tannic and full-bodied with some berry flavors, and has a slightly hot finish. At optimum maturity (8 to 10 years), the oak/fruit balance should be better married, with smooth, round, spicy flavors.

Merlot's best characteristic is an inherent softness that allows you to vinify for high flavor and extract without acquiring unmanageable levels of tannin. The wine has a distinctive and pleasant varietal flavor, but one which is difficult to describe.


COVEY RUN
1984
MERLOT
YAKIMA VALLEY
Produced and bottled by Covey Run Vintners, Zillah, Washington
Alcohol 13.6% by volume; B.W.-WA. 86

*"Merlot's best characteristic is an inherent softness."*

### *Grapegrowing*

We own six acres of hillside vineyard planted to Merlot, in addition to purchasing grapes from other Yakima Valley vineyards. Our vineyard is at 1,000- to 1,200-foot elevation with a southeast exposure and a 10% slope.

The vines were planted on their own roots in 1979 with 8x10 spacing. A single-wire bilateral cordon system is used. The vines are spur-pruned to 2 or 3-bud spurs four inches apart for 45–50 buds/vine for an average yield of 3.5 tons/acre.

The 8 to 12-inch topsoil is Warden silt loam and sandy clay, over a sandstone and gravel subsoil. Soil pH is 7.4. The vineyards are fertilized with nitrogen at 110 lbs/acre annually, and with 3 gal/acre of 3-18-18 to increase yield, vigor, and health of vines.

Annual rainfall is 6 to 10 inches, with 1 to 2 inches during the growing season. We use drip irrigation weekly for 24 hours throughout the growing season.

Winter lows may reach −10°F twice a decade for one or two nights. This makes vines more susceptible to crown gall, and may kill trunks and buds. Merlot's susceptibility to crown gall is one viticultural problem with the varietal. Our potential frost-damage period is from mid-September through April. Bud break is April 1, berry set is mid- to late June, and veraison is the third week of August.

Grapes are mechanically-harvested from early to mid-October. Brix and pH determine when we pick. Our harvest window is 22.5 to 24.0° Brix, with 0.80 to 0.90 g/100mL TA and 3.2 to 3.4 pH.

### *Winemaking*

We add 20 ppm $SO_2$ at crush. Tartaric acid may be added to lower pH. The must receives 7 to 10 days of skin contact at 75 to 80°F. We add a 2% inoculum of active-dry K-1 yeast to induce a 7 to 10-day fermentation. The must reaches 70 to 75°F for 3 to 4 days, then rises to 80–85°F to finish.

Pump-over is three times/day for 15 to 20 minutes until pressing. We decide to press based on Brix and taste—we try to obtain optimum extract/tannin/color balance. This generally occurs between 0 and 2° Brix.

During primary fermentation, we inoculate with MCW to induce malolactic fermentation, building up to 10% inoculum. Completion is encouraged by keeping the must warm, with no $SO_2$ additions. Malolactic normally finishes 1 to 2 weeks after pressing.

First racking off the yeast lees occurs one–two weeks after pressing. We rack 4 or 5 more times during the ageing period, and generally add 15 to 20 ppm $SO_2$ at each racking. The wine is aged 15 to 18 months in 1 to 4-year-old French and American oak barrels which are topped every 3 or 4 weeks.

We sometimes fine our Merlot; if so, it occurs about halfway through barrel-ageing and 0.5–1 lb/1,000 gal of gelatin is used. The wine is filtered with medium pads and sterile pads just before bottling, and 30 ppm $SO_2$ is added. There is a 0.45 µ membrane at bottling. Free $SO_2$ at bottling is 25 ppm, and total is 110 ppm. The wine is bottle-aged 6 to 8 months prior to release.

### *Tasting Notes:*

**Covey Run 1983**

*Color/Aroma:* Medium red; floral, geranium, pine, herbaceous, cherries, metallic, cloves, perfumy.

*Flavors:* Pine, cedar, earthy, dill, floral, complex.

*Balance/Finish:* Long, rich finish, moderate tannins.

**Covey Run 1984**

*Color/Aroma:* Light ruby; smoky cherry nose, herbaceous.

*Flavors:* Spice, pepper, cherries, strong tannins.

*Balance/Finish:* Very young, slightly unbalanced now, should age well.

## LAKE SONOMA WINERY

*Winemaker: Don Polson*

### *Wine Style*

Our Merlot emphasizes full flavors and high extract. Upon release, it has a strong, beautiful color and a great deal of nose. At optimum maturity, about four years from harvest, the wine is smooth, and rich, with great color. Estimated cellaring potential is about ten years. I recommend our Merlot with lamb roast prepared with garlic, charcoal-broiled hamburgers, veal parmigiana, and barbecued rex sole.

Merlot's best characteristics are that it is easy to grow, offers good yields, has little rot susceptibility, is lighter than the typical Cabernet Sauvignon, can sell earlier, and, when well-made, is just as interesting to drink as Cabernet Sauvignon, Zinfandel, or Pinot Noir.

### *Grapegrowing*

We own 4 to 5 acres of vineyard planted in 1974 to Merlot on the western side of Dry Creek Valley in Sonoma County. Elevation is 400 feet, with vineyards on a north-facing slope. The vines are planted 8x12 on AXR-1 rootstock. The soil is well-drained gravelly loam, light and easy to till, but with silt. The topsoil is three feet deep. The subsoil is sand and gravel. Soil pH is 6.0.

We use a four-wire trellis with two cross-arms at 3.5 and 4.5 feet above ground. The lower wires are two feet apart for the canes. The upper wires are four feet apart.

Pruning is done as early as possible after dormancy, since we want to capture as much carbohydrates in the roots as possible. Under optimum conditions, we leave 10 to 14 buds on each of

> *"We use a four-wire trellis with two cross-arms."*

4 canes/vine. Clusters tend to be small, with small berries usually loosely bunched, developing relatively thick skins. This is why our Merlots start out with the potential to be big wines. Average yield is four tons/acre.

The vineyard is fertilized annually with 40 to 60 lbs/acre of nitrogen. We use ammonium nitrate in late February to early March. Two different components of nitrogen are used—one early, one late. The nitrate portion is available for immediate uptake by the roots in the spring, during the period of shoot growth. The ammonium portion must undergo nitrification to nitrate in the soil before it is available for uptake.

Traditionally, this has been viewed as taking about six weeks. Therefore, the second portion is available during the period of root growth in mid- to late summer. This has been the traditional view of fertilization and one which we have recently changed.

All fertilizers tend to acidify soils, ammonium nitrate much more so than calcium nitrate. Starting in 1983, we switched to the latter because its effect on soil acidity is minimal. Areas of relatively high rainfall, like Sonoma County, tend to have naturally acidic soils. We have continued the February–March application schedule.

Now it appears as though another change is in order. Current research indicates that nitrogen is required through the entire growing season on a linear and consistent basis. Most of the nitrogen is taken up in nitrate form. Nitrate is reduced to ammonia (the form plants use metabolically) in the leaves of grapevines; most perennial plants accomplish this reduction in the roots.

Studies now show that the best time of nitrogen fertilization might be post-harvest, when the leaves are still active. This has been shown to result in the best growth and nitrogen distribution the following spring. The fertilizer $CaNO_3$ could be applied right after harvest, immediately prior to the normal post-harvest irrigation.

The advantage of using $CaNO_3$ in this scheme is that it can be watered in rather than disced in as with ammonium nitrate. The danger in this is that too much fertilizer can promote shoot growth and perhaps cause the plants to be damaged by early fall frosts.

The problem with the traditional timing of application prior to bud break is that excessive nitrogen during bloom can cause fruit to shatter. Much shatter which in the past has been blamed on excessive heat during bloom might be more attributable to excessive nitrogen. This and the soil acidity problem tell us to stay with $CaNO_3$ and switch to a post-harvest application schedule.

Our spray program is wettable sulfur at bud break, wettable sulfur and Rovral at 5% bloom, wettable sulfur and benlate/captan at bunch close. Benlate/captan at veraison is used if there appears to be a need. Bayleton may be substituted for wettable sulfur at 5% bloom and beyond.

Bud break occurs between April 4 and 10, with berry set following about May 10 to 15, and veraison about August 1 to 5.

The grapes are hand-picked between August 25 and September 18. Brix and pH are the main criteria we use to determine when to pick, in addition to appearance and flavor. Our typical harvest window is 22.0 to 24.0° Brix, with 0.80 to 1.00 TA and 3.0 to 3.4 pH.

### Winemaking

We add 50 ppm $SO_2$ at crush. The must is inoculated with liquid-culture Pasteur Red. Fermentation lasts 8 to 10 days at 75 to 85°F. The cap is punched down 2 to 3 times/day every day throughout fermentation. We press at dryness, and also consider color and lack of active generation of $CO_2$. This is why our red wines have tended to be rather monstrous. Recently, we have started to press generally between 2 and 4° Brix, depending upon color extraction and flavor.

We don't encourage malolactic fermentation; we simply let nature take its course. Malolactic can finish sometimes as late as two years after harvest.

First racking off the yeast lees occurs 10 to 15 days after pressing. We rack three more times. The wine is aged for 2 to 2.5 years in 5 to 12-year-old American oak. Barrels are topped when racked, and are then rolled. $SO_2$ is adjusted constantly between fermentation and bottling to maintain 10 to 25 ppm free.

The wine is filtered immediately prior to bottling with a medium -pad filtration. The 1980 had no filtration. Free $SO_2$ at bottling is 25 ppm; total is less than 100 ppm. The wine is bottle-aged six months before release.

### Tasting Notes:

**Lake Sonoma 1980**

*Color/Aroma:* Deep ruby, cloudy with sediment; acetic, black cherries, cedar, herbal, dill, VA.

*Flavors:* Cherries, high acid, black pepper, oak, earthy, high extract.

*Balance/Finish:* Tart, tannic, full-bodied, astringent.

**Lake Sonoma 1982**

*Color/Aroma:* Purplish, slightly cloudy; very ripe, cherry, jammy nose, fixed sulfide character.

*Flavors:* Plums, port, cherry candy.

*Balance/Finish:* Tannic, astringent, tart, needs time.

## LOUIS M. MARTINI WINERY

*Winemaker: Michael Martini*

### Wine Style

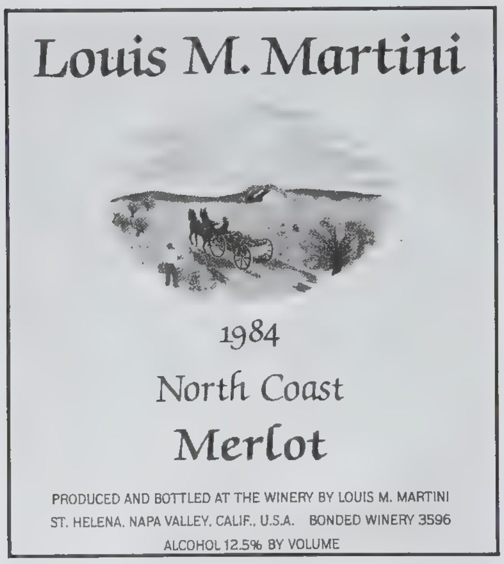
Our Merlot is soft, lighter-styled, and delicate, with many component parts. Fruit is emphasized. To achieve this, we do 14 days' skin contact, and char the barrels to help push fruit forward. Generally, I consider our Merlots balanced, with soft tannins dominating, although our 1982 to me is slightly too tannic and high in acid—it needs bottle time.

Upon release, our Merlot is almost thin from austere tannins. It is slightly hard, very fruity, and not overly-tannic. At optimum maturity, the wine has excellent glycerol structure, comes into balance, and develops more plummy, spicy fruit. It has medium weight on the palate. Cellaring potential is about 15 years.

Merlot's best characteristic is its soft drinkability. I recommend our Merlot with duck, pork, veal, pasta with a medium-weight sauce, beef stock soups, and pate.

### Grapegrowing

We purchase grapes from Alexander Valley and Napa Valley



Louis M. Martini

1984
North Coast
Merlot

PRODUCED AND BOTTLED AT THE WINERY BY LOUIS M. MARTINI
ST. HELENA, NAPA VALLEY, CALIF., U.S.A. BONDED WINERY 3596
ALCOHOL 12.5% BY VOLUME

*"We give 14 days' skin contact and char the barrels to help push fruit forward."*

in addition to owning 20 acres planted to Merlot in the Russian River Valley. Our vines were planted in 1964 on 6x10 spacing on AXR-1 rootstock. We prefer AXR-1 over St. George because of its lower vigor.

Our vines are on a UC Davis-recommended cane system. We prune to 14 buds/cane single bilateral, or 2 buds/spur on cordons. Average yield is 3.5 to 4 tons/acre. Crop size is controlled naturally, since richer (high-nitrogen) soils shatter Merlot.

The soils in our vineyard are divided into two types: alluvial fans and terraces. Both soils have a routing depth of over 6 feet with a high level of fertility without fertilizing.

The vineyard is sprinkler-irrigated once/year in June; about 4 inches are applied. Bud break occurs between late March and early April, with berry set in late May and veraison in early August.

Winter herbicide application is December to January, with strip-applied Goal, Roundup, and Princep. We do fungicide dusting with sulfur from mid-April through early July, about every 2 to 3 weeks.

One viticultural problem with Merlot is its assimilation of nitrogen.

Our Merlot is generally harvested in September. Our picking criteria include soft fruit, fading acid in taste, and tannin structure in the mouth. Our harvest window is 22.0 to 23.5° Brix, 0.80 to 0.95 TA, and 3.2 to 3.5 pH. One-third of the fruit is hand-picked; the other two-thirds are mechanically harvested.

### Winemaking

Tartaric acid is added prior to fermentation to achieve 0.90 TA. Skin contact lasts 14 days. We inoculate with 1% inoculum active-dry Champagne 595 yeast. Fermentation lasts seven days. From 22.5 to 12° Brix, the temperature is at 65°F; from 12° Brix to dryness, the temperature is at 80°F. We pump over twice/day for 40 minutes each throughout fermentation. When a balanced taste is achieved, we press.

Malolactic fermentation occurs spontaneously. We encourage completion by not adding $SO_2$ once it starts. Malolactic normally finishes within two weeks of draining. First racking off the yeast lees is two weeks after draining. We rack once or twice more as required by sight, smell, and taste. $SO_2$ is added as needed with rackings.

The wine is aged 18 to 24 months in new Nevers barrels, which are topped monthly.

We cold-stabilize the wine by holding it for two weeks at 28°F just prior to bottling. Just before cold stabilization, the wine is fined with 1 to 3 lbs egg whites/1,000 gal. An FP-4 filtration is done off cold stabilization, with a sterile-pad filtration to bottle. Free $SO_2$ at bottling is 30 ppm, with 50 to 80 ppm total. The wine is bottle-aged 2.5 to 3 years before release.

### Tasting Notes:

**Louis M. Martini (NV)**

*Color/Aroma:* Medium red brick; herbal, herbaceous, orange peels, cherries, plums, tobacco, developed bottle bouquet.

*Flavors:* Cedar, cherries, fading, somewhat thin, high acid.

*Balance/Finish:* Short finish (controversial—a few stated long finish), slightly sweet, balance a bit tart.

**Louis M. Martini 1969**

*Color/Aroma:* Medium red/brick, amber hue; acetic, cedary/redwood, minty, fruit aromas combined with bottle bouquet.

*Flavors:* Intense, complex, cherry, vanilla, tobacco, berries, cedar, good acid, slight herbaceousness, chocolate mint, some Cabernet character.

*Balance/Finish:* Clean, balanced, crisp, good mouthfeel, medium-long finish, wood overtones.

**Louis M. Martini 1982**

*Color/Aroma:* Clear ruby; light raspberries, cherries, berries, volatile fruit.

*Flavors:* Fruit comes through, sweet black-cherry jam; marked acid.

*Balance/Finish:* Crisp, well-balanced.

## STONEGATE WINERY

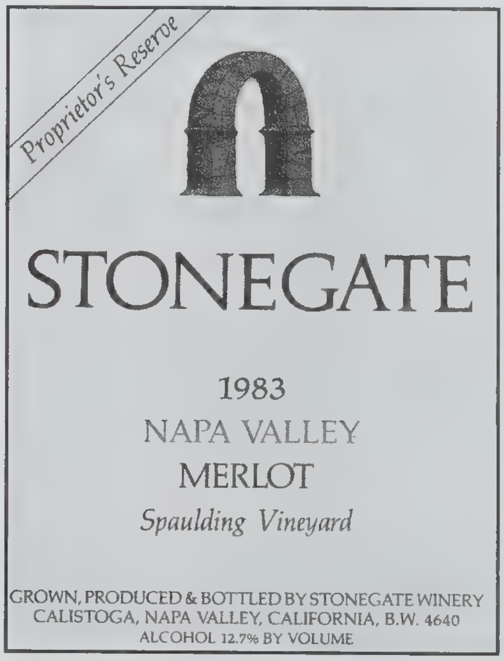
*Winemaker: David Spaulding*

### Wine Style

By harvesting early, we get more 'berry-cherry' character instead of overripe flavors. The fruit in the wine seems to last longer if the berries are picked when still crisp. The best characteristics of this varietal are the cherry-like fruit and the silky mouthfeel.

We get plenty of color and tannin, so we concentrate on preserving the fruit and de-emphasizing the tannin to achieve a balanced wine. We bottle-age the wine for two years, so the fruit/tannin/acid balance is good. Estimated cellaring potential is 10 to 15 years.

Our Merlot goes well with pizza, hamburgers, hot dogs, salmon, and pasta.



Proprietor's Reserve

STONEGATE

1983
NAPA VALLEY
MERLOT
*Spaulding Vineyard*

GROWN, PRODUCED & BOTTLED BY STONEGATE WINERY
CALISTOGA, NAPA VALLEY, CALIFORNIA, B.W. 4640
ALCOHOL 12.7% BY VOLUME

*By harvesting early, we get more 'berry-cherry' character.*

### Grapegrowing

We own four acres planted to Merlot located at 1,000-foot elevation in the Mayacamas range, west of Calistoga at the north end of the Napa Valley. The exposure is west-southwest. The vines were planted on St. George rootstock in 1970 on 8x12 spacing. At that time, St. George was advised for hillside planting. The topsoil is shallow (2 to 12 inches), with hard pan underneath.

We use a 3-wire vertical trellis to promote good air drainage, foliar canopy, and access for harvest. We prune to bilateral cordons during dormancy, after the first hard frost. Average yield is 3.5 tons/acre.

A Bayleton application is made at 4 to 6 inches of growth, followed by 3 or 4 sulfur dustings up to veraison.

Merlot is harvested in September. The typical harvest window is 23.0 to 23.5° Brix, with 0.63 to 0.75 g/100mL TA and 3.3 to 3.6 pH. The most important factor is berry condition: they must be picked before they get soft.

The main viticultural problem with Merlot is that it is a nitrogen 'fixer', so the set can be poor. Merlot vines absorb excess nitrogen from the soil, which increases vigor and lowers the set, much as overfertilization of young Chardonnay can cause excessive shoot growth and no crop to speak of.

### Winemaking

We inoculate with active-dry Montrachet at 1 lb/1,000 gal. Fermentation lasts 7 days, peaking at 80°F, then down to 70°F for the balance of fermentation. We pump over twice/daily for 20 minutes each time throughout fermentation. The decision on when to press is determined by tannin pickup: we want to avoid too much.

Malolactic fermentation is encouraged by inoculation with ML-34/PSU-1 during fermentation. A tartaric acid addition to achieve 3.4 to 3.5 pH is sometimes made after malolactic.

First racking off the yeast lees occurs after malolactic completion. We rack again as needed. The wine is cold-stabilized occasionally, if tartaric is added after malolactic and before barreling. The wine is DE-filtered after cold stabilization. We use a mixture of new and used (1- to 5-year-old) French oak barrels, which are topped every six months during two years of barrel ageing. $SO_2$ additions are made as little as necessary to maintain 0.8 ppm molecular $SO_2$.

The wine receives a polish-pad filtration before bottling. Free and total $SO_2$ at bottling depend on pH. We try for 0.80 ppm molecular free $SO_2$; total is usually around 100 to 130, but we are most concerned with free.

### Tasting Notes

**Stonegate 1979**

*Color/Aroma:* Clear, deep ruby; lush fruit, oak, cherries, chocolate, black peppers, berries, barnyard, flowery.

*Flavors:* Oak, tea, berries, currants, exotic fruit, leather, spicy, slight spritz.

*Balance/Finish:* Astringent, tannic, good acid, medium finish, a bit awkward—needs time.

**Stonegate 1982**

*Color/Aroma:* Garnet; herbacous, dill, ripe currants, berries.

*Flavors:* Spice, berries, cherries, cedar.

*Balance/Finish:* Good balance, firm tannins, will age.

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## WHITEHALL LANE WINERY

*Winemaker: Art Finkelstein*

### Wine Style:

We want to produce an accessible wine to drink in 6 to 10 years from vintage. We want to have a depth of fruit with moderate tannins, acidity and oak.

Our Merlot grapes come from one vineyard which has unique properties which are unlike other Merlot grapes I have worked with. For example, the grapes make the best wine when very ripe (24° Brix). The TA and pH must be manipulated.

The charm of this particular grape is in its intense black cherry fruitiness, and toward this end we ferment in small lots, punched down by hand to keep the fermentation temperatures around 75°F. To reduce the astringency one might get from these very ripe grapes, we press off before dryness and blend the last 10% of press wine into less expensive wines.

*"Our grapes make the best wine when very ripe (24° Brix.)"*

### Grapegrowing

The vineyard, on rolling hillsides in Knights Valley, was planted in the early 1970's. The vines are spaced 8x12, cane-pruned to a 3-wire trellis and yield three tons/acre. Through experience, sugar of 23.5° to 24° Brix has become our criteria for harvest.

### Winemaking

Grapes are destemmed, crushed into ½ ton fermenters. We acidulate the must with tartaric to reach 0.7 to 0.8 TA before fermentation. French Red yeast is added as well as a heavy dose of malolactic culture. We punch-down our fermenters three times/day and press off at about 5° Brix.

The wine is held in oak uprights and racked two or three times during the first 12 months. The wine is aged seven months in French oak and American oak barrels. The wine is fined with ½lb/1,000gal bentonite before bottling.

We have typically blended 5 to 12% Cabernet Sauvignon into our Merlot. The wine is bottled with 25–30 ppm free $SO_2$ and released for sale three years after harvest.

### Tasting Notes:

**Whitehall Lane 1982**

*Color/Aroma:* Deep ruby, clear; cherries, berries, spice, black pepper, herbal, port, charred oak.

*Flavors:* Ripe berries, chocolate, oak, cherries.

*Balance/Finish:* Firm, tannic, hot, good acid, needs time.

**Whitehall Lane 1984**

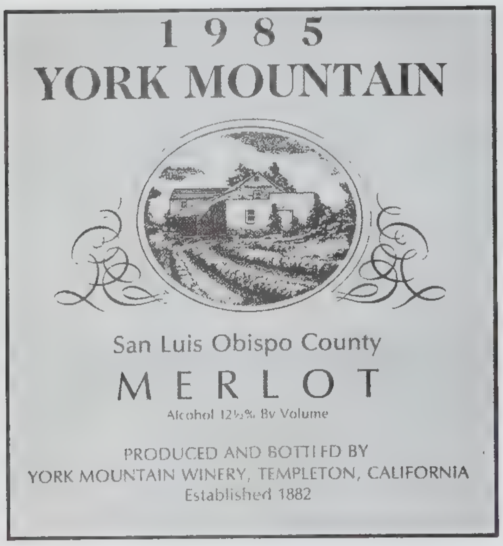
*Color/Aroma:* Dark garnet; oak, earth, cedar, cinnamon.

*Flavors:* fruity, dill, jammy, oaky.

*Balance/Finish:* Good balance, youthful finish, should age well.

## YORK MOUNTAIN WINERY

*Winemaker: Steve Goldman*



1985
YORK MOUNTAIN
San Luis Obispo County
MERLOT
Alcohol 12½% By Volume
PRODUCED AND BOTTLED BY
YORK MOUNTAIN WINERY, TEMPLETON, CALIFORNIA
Established 1882

*"We like the chocolate character that comes with high pH."*

### *Wine Style*

We feel that less tannin and lower acid add balance to our Merlot and allow for early maturation. Upon release, our Merlot is ready for consumption, with a soft finish. At optimum maturity, the wine is elegant with a fruity character. Ageing potential is 15 to 20 years. I recommend this wine with steak tartare and beef carpaccio.

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### *Grapegrowing*

Grapes for our Merlot are purchased from the Farview Vineyard in the Templeton area of San Luis Obispo County, CA. The vineyard elevation is 600 feet, and the slopes have a northern exposure. The topsoil is 2 to 8 feet of sandy clay with limestone.

Vines were planted in 1972 on 6x12 spacing and are trained onto a three-wire vertical trellis. Vines are pruned to 4 to 5 canes with about 15 buds/cane and 4 to 5 renewal spurs for an average yield of 6 tons/acre.

The vineyard is irrigated with overhead sprinklers twice, in late spring and in early summer, to add five inches for a total of 10 inches.

Until 1986, 3 or 4 applications of sulfur dust were applied. Currently, Bayleton is used. Pesticides are occasionally used to control leafhoppers.

Bud break in this vineyard occurs during the first week in April, with berry set in June and veraison following in late July.

One viticultural problem with Merlot is high pH. However, we add no acid to compensate for this, as we like the chocolate character that comes with high pH.

The grapes are hand-picked during the second or third week of September. We look for TA retention and a pH not above 3.6. Brix is secondary; sometimes the grapes can be ripe at 21° Brix.

### *Winemaking*

The must is inoculated with active-dry Champagne yeast. The fermentation period is seven days at 70 to 80°F. Fermentation is done in small open tanks with no temperature control. The cap is punched down for 15 minutes 2 to 3 times/day throughout the fermentation period. Pressing occurs at dryness.

Malolactic fermentation is encouraged by inoculation with a 5% inoculum combination of PSU-1 and ML-44 at mid-primary fermentation. Malolactic normally completes after about two months.

First racking off the yeast lees occurs in mid-December, and the wine is racked once more in the spring. The wine is aged 14 months in two-year-old American oak barrels, which are topped monthly. $SO_2$ adjustments are made as necessary to maintain 35 ppm free.

Prior to bottling, the wine is fined with three egg whites/barrel. $SO_2$ at bottling is 35 ppm free and 100 ppm total. The wine is bottle-aged 4 to 6 months before release.

### *Tasting Notes*

**York Mountain 1977**

*Color/Aroma:* Medium-dark brick/ruby, cloudy; herbaceous, musty, earthy, port-like, ripe, black pepper, jammy, plummy, pronounced bottle bouquet.

*Flavors:* Plummy, earthy, black pepper, black cherries, high extract, old redwood flavors.

*Balance/Finish:* Long finish, earthy, hot, some astringency, generally good balance.

**York Mountain 1983**

*Color/Aroma:* Clear light red; flowery, strawberries, dill, earthy.

*Flavors:* Cherries with herbal underpinnings.

*Balance/Finish:* Soft, round, well-balanced, lighter style.

PWV '88

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PWV '88

# MERLOT & FOOD

*Bob and Harolyn Thompson*

Madeleine Kammen, the great teacher of chefs, threw up her hands at a cooking demonstration in Napa Valley not long ago and said, "I give up, Merlot doesn't go with anything!"

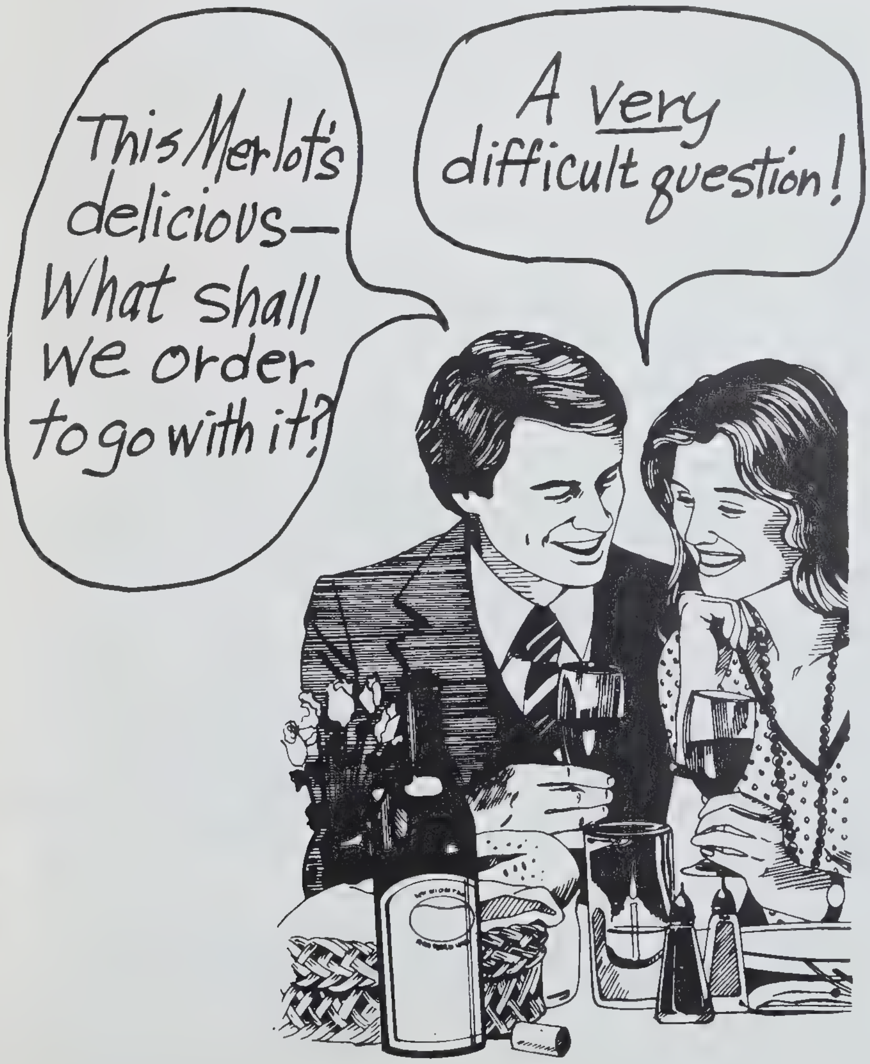
We sighed in relief, having spent weeks arriving at the same conclusion.

It's not that one cannot drink Merlot with dinner. It will co-exist with any of the foods usually accompanied by red wine, and with some commonly paired with whites. What's hard is finding matches that show Merlot in the best possible light.

Cabernet Sauvignon is dead easy. Depending on the individual diner's predilections, duck, lamb, or juicy, well-marbled steak will make a young Cabernet stand tall. Add sweetbreads to the roster for older wines. Regardless of a Cabernet's age, there are a variety of appropriate sauces.

Sauvignon Blanc is even easier than Cabernet. White-fleshed fish, and chicken with either Mexican seasonings or garlic, will always show the wine to its best advantage. (Only garlic with some chicken on the side will do it better).

But Merlot. . . Merlot keeps sitting down between the chairs.


This Merlot's delicious— What shall we order to go with it?
A very difficult question!

Typically, it does not have the tannins of a Cabernet grown in the same place, so it will not be as effective in cleansing the palate of fat from dishes such as duck.

Nor does the average Merlot have a Cabernet's intensity and complexity, so it tends to pale beside foods with powerful or complex aromas and flavors. Conversely, even very good Merlots lack a Pinot Noir's delicacy and complexity of flavor, so they may taste blunt or simple with the refined dishes that best complement Pinot Noir.

With the most varietal of Merlots—softly-textured wines with simple, almost unfocused flavors—we kept returning to mildly seasoned, straightforward pasta dishes for the most rewarding pairings.

The most frequent successes were carbonaras and variations—dishes that use condiments rather than sauces. The most helpful condiments included generous amounts of hard cheeses and pine nuts, and more judicious amounts of basil, sun-dried tomatoes, pancetta or prosciutto, and mild sausages.

Polenta, with the same array of toppings, is a useful stand-in for pasta.

Of all the meats, rabbit proved the most adaptable to Merlot. With more flavor than chicken, it can meet the wine halfway, yet it is not so strongly-flavored that it emphasizes the wine's simplicity of varietal character. Rabbit stew over pasta or mashed white potatoes has an intensity and depth of flavor harmonious with Merlot. So does rabbit in a brown sauce, and rabbit roasted and served plain.

Chicken lightly seasoned is a safe way to go, as are most of the farm-raised game birds.

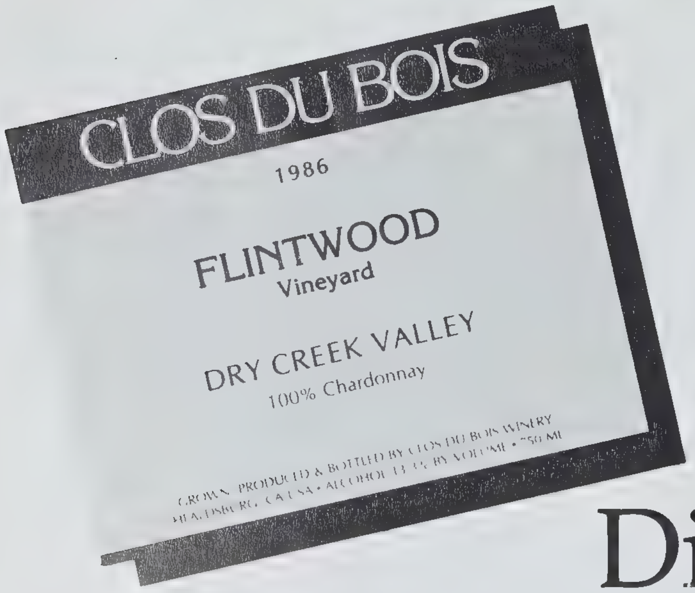
Coq au vin is also a possibility, but we found quite a few Merlots left at the gate by well-seasoned, deeply tasty versions of this old standby.

Beef burgundy falls into the same category as coq au vin—it's a success with some of the more flavorful, well-structured Merlots, but too much for run-of-the-mill bottlings. If you stretch the stew by ladling it over noodles or mashed potatoes, wines in the latter class may better hold their own.

We also tried Merlots with tuna and other fatty fish, but never with memorable success. Ditto pork and lamb, with simpler preparations pairing up better than fancy ones.

It seems to us that winemakers keep confessing the shortcomings of the pure article by blending Merlot with Cabernet Sauvignon, Cabernet Franc or both, in order to add spine and/or flavor. The unbridled use of new oak for its perfume and the extraction of every atom of tannin from the grapes (and wood) are also confessions of Merlot's deficiencies.

But blending seems more effective than reliance on oak or high levels of extract, especially if the blend wines are chosen to add flavor without changing Merlot's essentially soft texture. The typical Merlot is ill-suited to extra tannin; it does not have the richness of flavor to support such textural austerities.


CLOS DU BOIS
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FLINTWOOD
Vineyard
DRY CREEK VALLEY
100% Chardonnay
GROWN, PRODUCED & BOTTLED BY CLOS DU BOIS WINERY
HEALDSBURG, CA USA • ALCOHOL 13 [illegible] BY VOLUME • 750 ML

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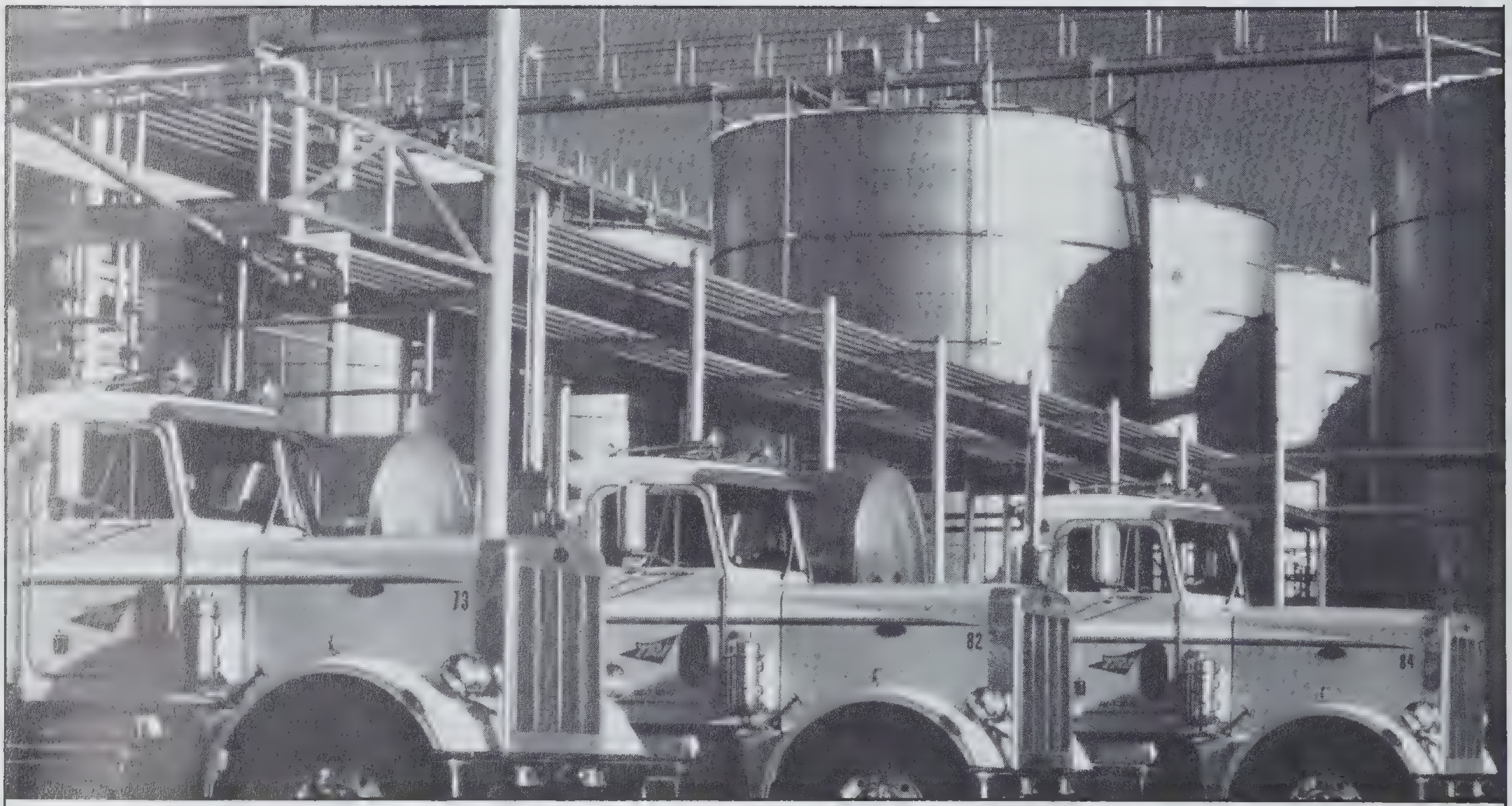
1986
CALCAIRE
Vineyard
Alexander Valley
100% Chardonnay
GROWN, PRODUCED & BOTTLED BY CLOS DU BOIS WINERY
HEALDSBURG, CA USA • ALCOHOL 13.4% BY VOLUME • 750 ML

# Distinctive Vineyards Dictate Wine Styles

*Eleanor & Ray Heald*

Vineyard-designated wines are on the increase in California. Flintwood and Calcaire Vineyard Chardonnays from Clos du Bois, Healdsburg, Sonoma County, have been accepted in the marketplace because the wines show a consistent style independent of vintage variation.

Of the two vineyards, Flintwood seems to gain more character with bottle age. Calcaire tends to deliver good fruit intensity early, but then tapers off quickly. When the Calcaire begins to plateau or taper off, the Flintwood is just beginning to reach maturity.



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### Flintwood

The Flintwood Vineyard, located in the Dry Creek Valley, was planted in 1967 in valley floor red volcanic soils protected by western hills. Flintwood vines are not virus-free, and picking includes a large percentage (20–25%) of shot berries. This increases the fruit intensity and ratio of skin to juice volume, and gives the wine a lemony-citrus character. Typical yields are 66–68 tons for the 20-acre vineyard. The vineyard is usually hand-picked in one day or two consecutive days.

According to winemaker John Hawley, "Flintwood has a tight, austere quality, with low pH and high fruit intensity. It needs help to soften-out and develop complexity with bottle age. This is assisted by inducing malolactic fermentation, inoculating at 2° Brix. Flintwood benefits from the accompanying deacidification and increased diacetyl character in the finished wine."

Flintwood is fermented in heavy-toast Francois Freres Limousin oak barrels half of which are new, which lend a smokey note to the wine. New barrels are soaked overnight or longer with cold water until the leaks stop, drained and filled with fermenting juice. It then ages 10 months *sur lie*, with stirring taking place weekly during alcoholic and malolactic fermentation, and at each topping, to yield a wine with emphasis on complexity, not fruit. Like a French white Burgundy, it takes two years to begin to develop, but then reaches a plateau where it remains for about five years.

In large measure, Flintwood's style is maintained, given vintage variation, by controlling the percentage of malolactic fermentation. "I have found from experience," says Hawley, "that the lower the pH at harvest, the greater percent of malolactic fermentation is required to give a consistent taste.

"I aim for a finished pH of about 3.4 by inoculating 20% of the barrels with ML-34 and tasting those barrels for buttery character. If I need more, I continue to inoculate more barrels until I have the degree of diacetyl character I want."

About 500 gallons of the heavy press fraction juice which has a higher pH is used for the ML starter batch. About 4–5 gallons of ML inoculum is added to each barrel which tops up the barrel pretty well when primary fermentation is almost complete.

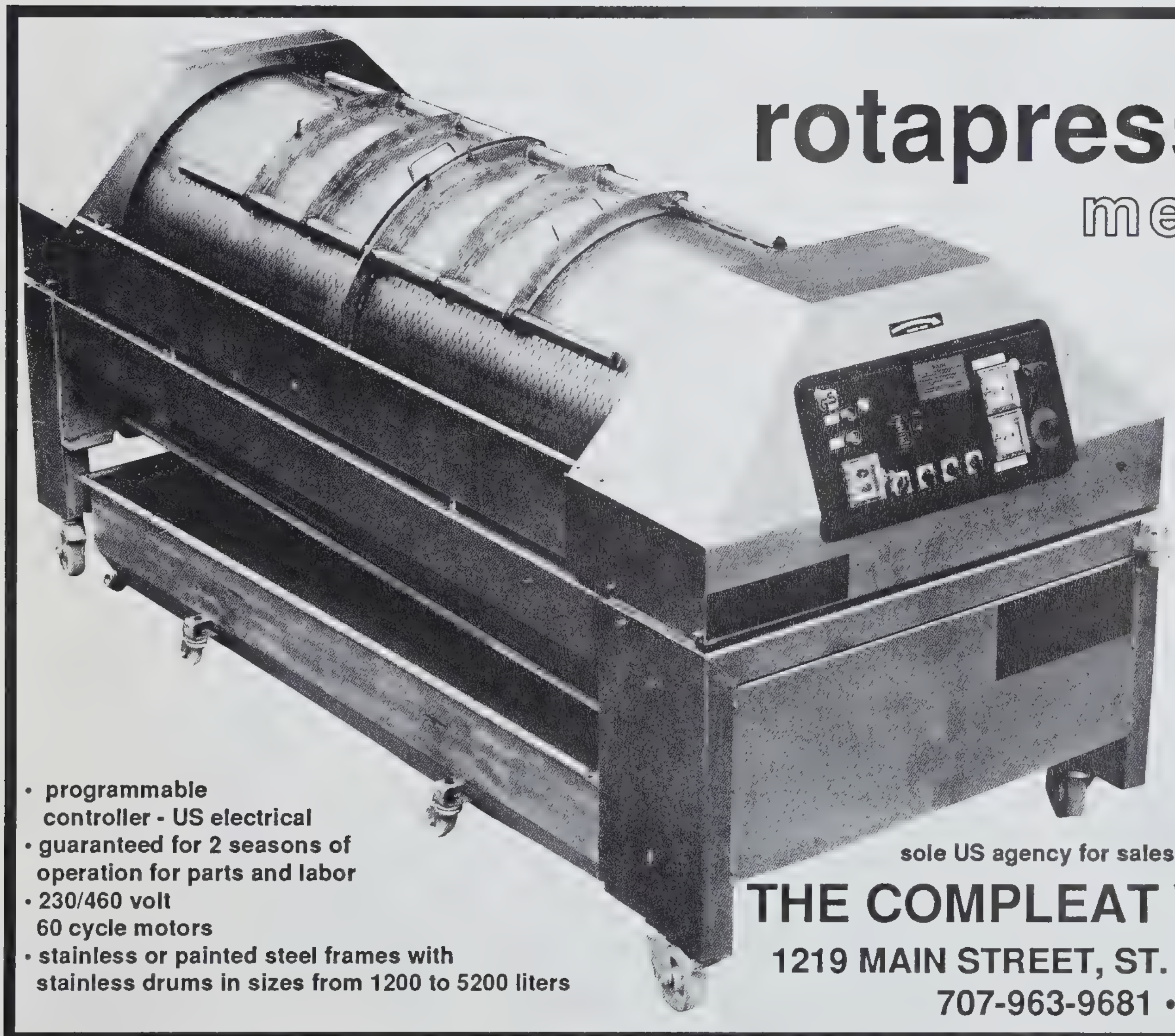
In order to get the desired character in Flintwood and Calcaire Chardonnays, harvest is targeted at 22.3° Brix, which converts to 13.3 - 13.4% alcohol. Acid adjustments are made before fermentation with 50% malic and 50% tartaric, or after cold stabilization with malic.

### Calcaire

Calcaire is a 16-acre Alexander Valley vineyard planted in the late 1950s in sandy, alluvial, well-drained soils deposited by the Russian River. The soil drains so well, that the vineyard stresses early and yields a low crop of 2.5 tons/acre. The fruit has a ripe, luscious character of pineapples and peaches with a hint of apples. With this fruit, Hawley aims for a straightforward wine style with emphasis on fruit rather than complexity.

"Calcaire is fermented and aged in lightly-toasted Taransaud barrels to give a soft oak quality without the smokey-toast character of Flintwood," explains Hawley. "Half the barrels are new, and are prepared the same way as described previously. Malolactic fermentation is avoided to maintain the wine's fruit qualities and thus Calcaire develops more rapidly than Flintwood, although $SO_2$ levels are essentially the same at bottling. It is racked off the yeast lees after 10 months. The wine peaks in about five years, but doesn't usually have the structure to re-

*continued on page 38*



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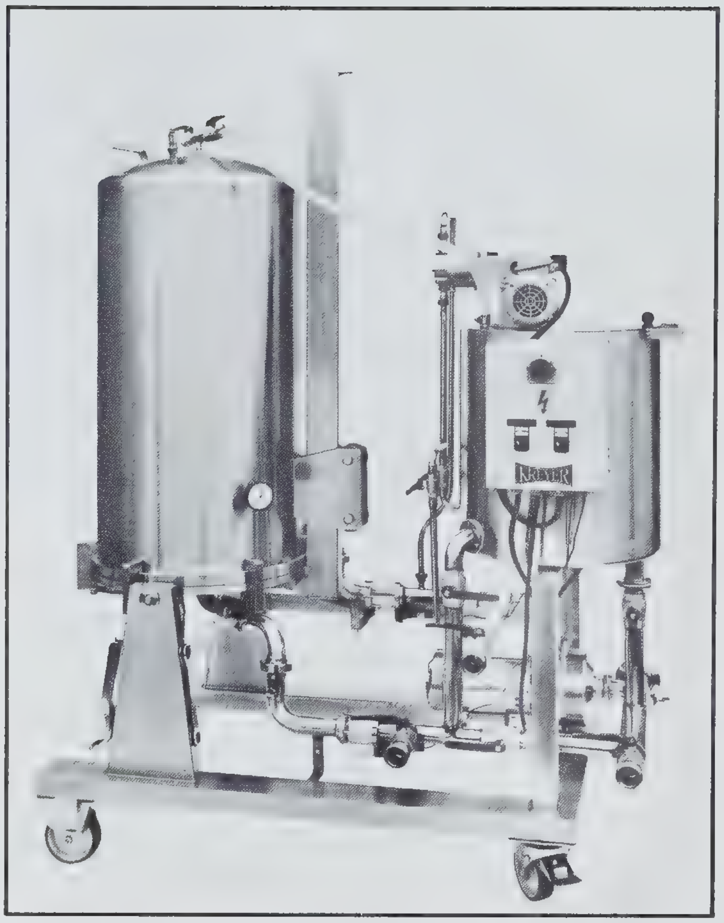
# The new DE Filters have increased flow capacity and allow easy cleaning and sterilization.



The new Pedia-Kreyer DE Filter can improve and increase the flow of your filtrations, simplifying clean-up and allow complete sterilization. The DEF 2, 4, 6, 8 processes from 1000 to 6000 Gal/Hour and offers a unique feature of filtration in a horizontal position and cleaning of plates in a vertical position. The Pedia-Kreyer DE Filters are mobile and compact, with a supply pump, all in stainless steel. Ball valves, control panels, and instrumentation are on the same side for easy access and utilization.

## Characteristics include:

- Homogeneous spread of DE on plates.
- The possibility of changing from one vat to another or to stop filtration for several hours without altering or breaking the DE coating.
- Reclamation of virtually all wine filtered.
- Residual filtration on special bottom plate (option: filtration of residual by cartridge.)
- Recovery of the used DE in solid form.
- The bell tank can be swivelled on it's side for cleaning purposes.
- Visual control of clean-up.
- The whole machine can be sterilized.
- No moving parts inside the pressure vessel so there is no vibration, no risk of leaks or of failure.

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main on a plateau very long."

### *Wine Grape Quality Improvements*

Clos du Bois has increased their ability to produce fruit of consistent quality by increasing sunlight in the vines. Since 1983, leaves have been pulled on the east side of the Calcaire north/south rows after berry set, exposing grapes to light and increasing air circulation, which helps prevent rot and improves color development.

This reduced the need for botrytis prevention sprays because opening the canopy reduced moisture build-up under the vines. A small amount of botrytis that develops is considered desirable. In wet years such as 1983, hand selection of the fruit may be necessary. This is easily accomplished since pickers receive payment for only the lug boxes of grapes that meet the winery's quality criteria.

Flintwood rows are planted east/west and a small amount of leaf pulling has been done on the north side of the rows after berry set.

Many winemaking treatments are common to both vineyard lots according to Hawley. The juice is settled 36–48 hours after pressing and the juice lees are recovered and usually added back. When the juice is racked to the fermenting tank, 3–4 lbs/1,000 gal of bentonite is added to achieve heat stability in the juice. The yeast, mixed with yeast nutrient, follows the bentonite. The juice remains in a tank 3–4 days until the juice has dropped 1° or more Brix before transfer to barrels.

When primary fermentation in the non-malolactic barrels has completed, 40 ppm $SO_2$ is added. In malolactic barrels, the bung is placed loosely until malolactic fermentation completes. Upon malolactic completion, 40 ppm $SO_2$ is added. One month later, the lees are stirred, the barrel is topped and $SO_2$ is adjusted. The bung is firmly placed and the barrel is rolled. The barrels are topped and stirred every two months.

Malolactic wine requires less $SO_2$ to protect against oxidation. The probable explanation is that acetaldehyde and perhaps pyruvate too (major $SO_2$ binding material) are consumed by malolactic bacteria. When $SO_2$ is added, a higher ratio of free to total $SO_2$ is achieved. A free $SO_2$ of 15 to 20 ppm in malolactic Chardonnay is maintained compared to 25 to 30 ppm in non-malolactic lots during barrel ageing.

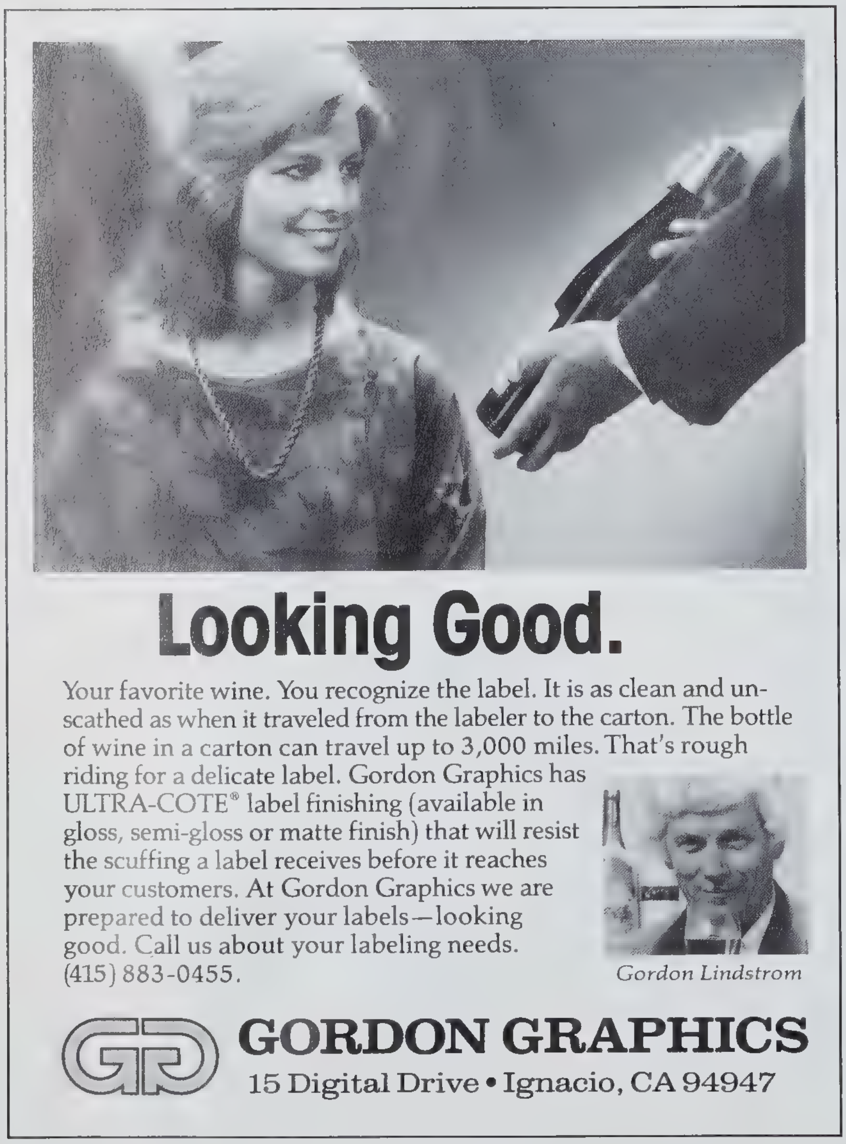
The Flintwood malolactic and non-malolactic lots are blended when the wine is racked from barrels. Both wines receive a heat stability check after racking. The wines are chilled to 30°F to achieve cold stability and are checked by a conductivity test. The wines receive a tight DE filtration in a pressure-leaf filter when racked off the tartrates. There is an $0.45\mu$ membrane on the bottling line and the wines are adjusted to 0.8 molecular $SO_2$.

"We bottle our wines, usually in late July or early August," says Hawley. "They pick up an additional 0.2 ppm oxygen, which doesn't seem like very much, but it is enough to throw the wine off-balance until the oxygen has time to bind up with $SO_2$ or phenolics. This is known as bottle shock. At bottling, the wines taste very good, and then about two weeks later, they really begin to lose it. In 6–8 weeks, they get back to where they were at bottling."

Flintwood and Calcaire are released together even though the Flintwood is backward. Hawley explains that customers do not understand why Calcaire is available when Flintwood is not. Although the Flintwood should be released after Calcaire, they are released together to satisfy customers and minimize confusion.

### Vertical Tasting of 1980–1986 Vintages

The 1980 Calcaire, unlike all other wines tasted, was fermented in stainless steel prior to barrel ageing. It is a very oaky wine that finishes with a sharp oak bite. A resinous character



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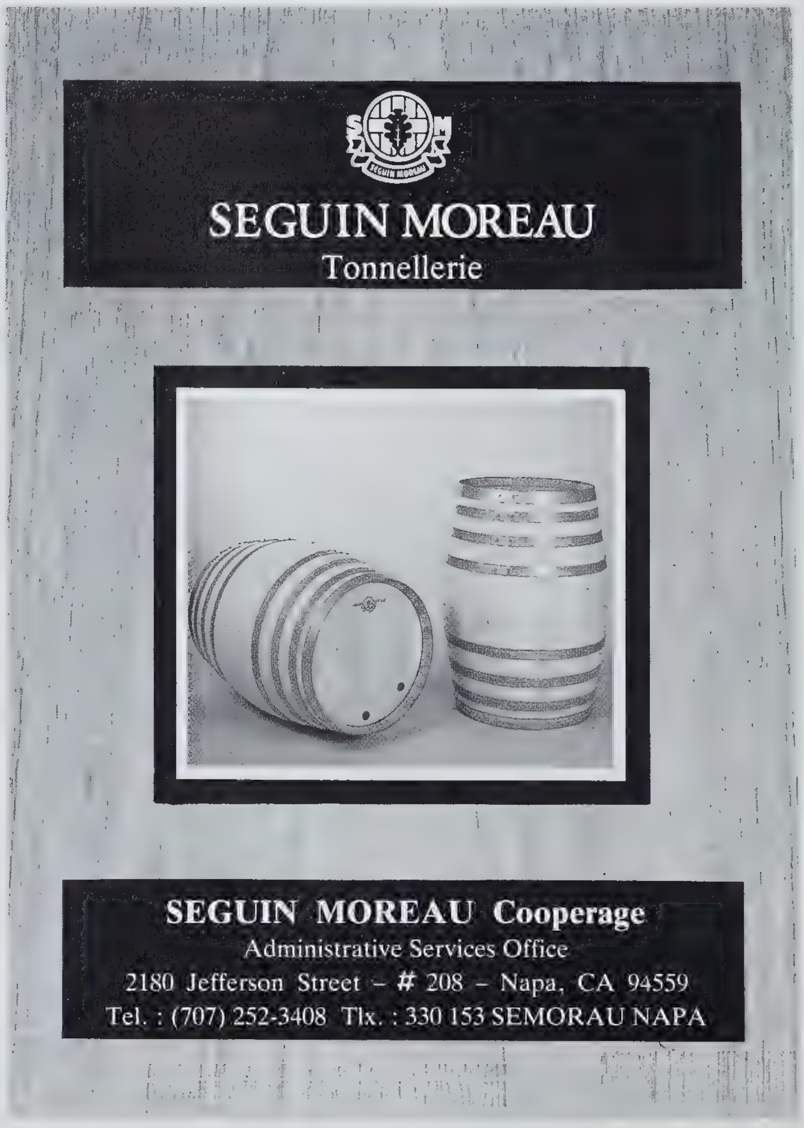

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has developed due to oxidation and the wine as a whole is getting tired.

All of the 1980 Flintwood completed malolactic fermentation. It has a hard-to-define herbaceous aroma, rich, buttery flavors with a toasty finish, and has held together surprisingly well.

The 1981 Calcaire has matured rapidly due to a hot growing season. It exhibits a very fruity aroma of lemons, ripe apples, and melons. According to Hawley, "For a while, the Calcaire had a clove-like character, and it still retains that spiciness, but finishes a little flabby and hot. It has reached a plateau. Flintwood did not go through malolactic fermentation in 1981. It tastes better than it ever has, but is not my favorite Flintwood."

Cool weather and a fair amount of rain characterized 1982. Crop yield was low because a lot of Chardonnay was lost to rot, recalled Hawley. In spite of that, both wines seem to have good ageability. "If I had it to do over again, I would not have made the 1982 Flintwood 100% malolactic because it is a little too buttery, oily, and soft now," notes Hawley.

"The 1983 growing season was wet and rainy. We started picking clean Chardonnay, but then we got rain and about 5% rot. A friend from France was with me when the grapes came in and she thought the fruit looked pretty healthy. In fact, she said that Chardonnay in France always has much more rot.

"The botrytis character in both the Calcaire and Flintwood has developed with time. Acidity was high due to the cool growing season and this helps hold the fruit. I think the 1983 Chardonnays are great because they are so fruity.

"We saw no botrytis on the skins, but I suspect from the intensely fruity character, especially in the Calcaire, that there must have been some in the grapes. Thirty percent of Flintwood was put through malolactic to add a note of buttery complexity without making it as full-blown buttery as the 1982.

"We also fermented the Flintwood in heavy-toast barrels for the first time. It has a clove-spiciness in the aftertaste that seems to be characteristic of our Chardonnays with a little bottle age."

The 1984 growing season was much like 1981, a dry, warm year, with an early harvest. Some white grapes were a little cooked. "I got concerned about the quality of both wines right after harvest," notes Hawley, "because it got hot in the winery and we had trouble keeping the fermentation cool. Despite the rapid ripening and hot fermentations, both wines turned out nicely, but they don't have the depth of cooler years. I think of 1984 as a mediocre year for Chardonnay; I think of them as precocious wines that probably won't age very well."

The 1984 Flintwood has a very fruity aroma combined with balanced toasty-oak character. Only 20% went through malolactic and it doesn't show.

"The 1985 vintage looked super for everything," says Hawley. "Harvest started out very clean. I was glad to get a little rain during harvest to pick up some botrytis, which adds complexity to the wine. The weather turned cool in the middle of the Chardonnay picking and actually stretched harvest to a full month.

"We were able to give each block (5 acres yielding 20 tons) four hours of skin contact at 60°F. 1985 was the last year we employed skin contact in our Chardonnay program. I now consider the increased phenolic extraction from skin contact to be a detriment to ageability."

The 1985 Calcaire has developed quickly, but with better acidity than any previous Calcaire. It is very pineappley, with tropical fruit and mint. The fruit seems to jump out of the glass and the wine is drinkable now. Pineapple character comes from Alexander Valley fruit. Flintwood is more reserved and delicate and it takes more time to develop. The 1985 vintage produced high acids.

"Flintwood was harvested with such low pH* that it wouldn't go through malolactic fermentation," Hawley explains. "As a

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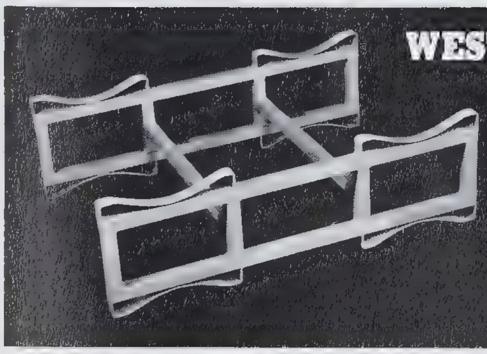

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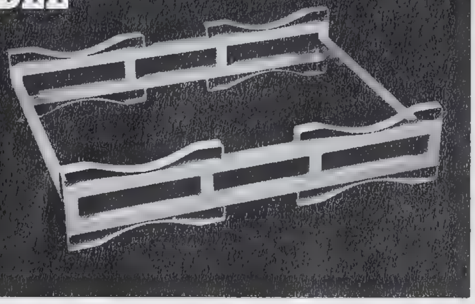

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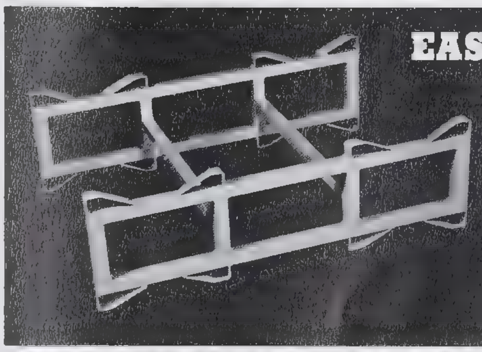

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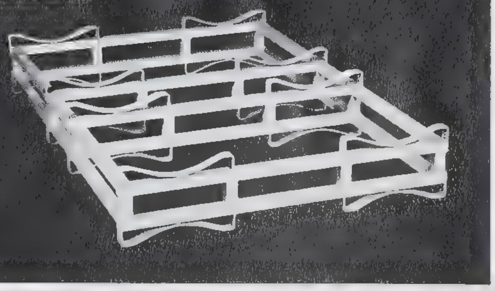

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SUMMARY

| | Harvest Statistics | | | Finished Statistics | | | |
|---|---|---|---|---|---|---|---|
| Vintage | Sugar | TA | pH | Alcohol | TA | pH | MLF |
| 1980 Calcaire | 23.5 | 1.10 | 3.35 | 13.5 | 0.72 | 3.53 | |
| 1980 Flintwood | 23.5 | 0.95 | 3.20 | 13.1 | 0.75 | 3.30 | 100% |
| 1981 Calcaire | 22.2 | 0.98 | 3.59 | 13.5 | 0.71 | 3.59 | |
| 1981 Flintwood | 23.2 | 0.91 | 3.35 | 13.4 | 0.71 | 3.32 | 0% |
| 1982 Calcaire | 22.2 | 0.98 | 3.22 | 13.5 | 0.71 | 3.50 | |
| 1982 Flintwood | 21.9 | 0.95 | 3.13 | 12.9 | 0.72 | 3.41 | 100% |
| 1983 Calcaire | 22.5 | 0.96 | 3.31 | 13.5 | 0.81 | 3.33 | |
| 1983 Flintwood | 22.2 | 0.93 | 3.19 | 13.0 | 0.79 | 3.35 | 30% |
| 1984 Calcaire | 22.7 | 0.99 | 3.24 | 13.6 | 0.75 | 3.29 | |
| 1984 Flintwood | 23.3 | 0.83 | 3.37 | 13.7 | 0.76 | 3.41 | 20% |
| 1985 Calcaire | 23.4 | 0.87 | 3.37 | 13.3 | 0.77 | 3.31 | |
| 1985 Flintwood | 23.4 | 0.85 | 3.25 | 13.5 | 0.76 | 3.22 | 0% |
| 1986 Calcaire | 23.0 | 0.65 | 3.46 | 13.4 | 0.75 | 3.30 | |
| 1986 Flintwood | 22.1 | 0.79 | 3.29 | 13.3 | 0.72 | 3.34 | 25% |

Statistics for the 1986 vintage were run on tanks after cold settling.

* One problem in comparing the numbers: Calcaire harvest sugars, TAs, and pHs were from bin samples until 1986. Flintwood numbers always came from tank samples the day after harvest. Still, with the exception of the 1984 numbers, pHs of Flintwood at harvest are consistently lower. Note also that in 1984, Flintwood was considerably riper than Calcaire.

result, the wine will remain tight for a longer period of time. It is often difficult to get malolactic to go in wines with pH below 3.3. Despite a large malolactic inoculum, it did not proceed, and we gave up on it in January, 1986.

"I have a lot of hope for our 1986 Chardonnays. The 1986 growing season began with early bud break and early flowering followed by a warm spring and cool summer. These add up to ideal ripening conditions where the grapes retained high TA and low pH.

"Compared to 1985, the wines are full, round, rich, and smooth while the 1985 remains tight and austere. The 1986 Flintwood tastes more developed. Since the vinification methods are essentially the same, the difference between the Flintwood wines is because 25% of the 1986 completed malolactic, adding a buttery complexity while retaining a high TA and low pH."

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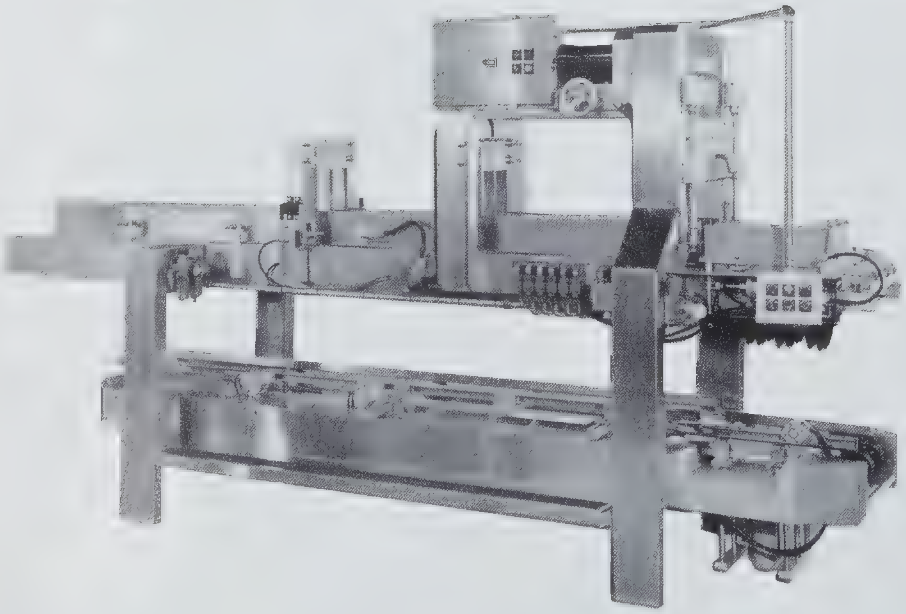

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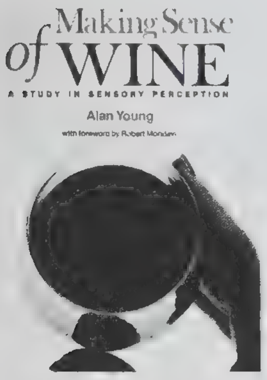
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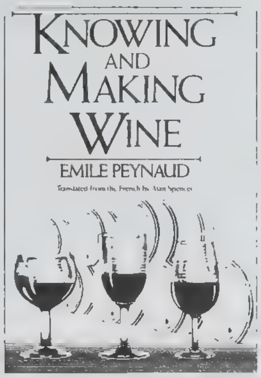

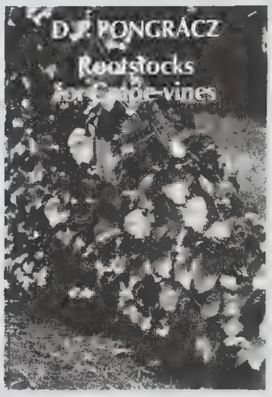

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PART III

# What's Available in Bottling Equipment?

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If you recognize this as an old *'Knock-Knock'* joke, you're clever, (and if you know the punchline, you probably also remember bottling wine by hand). Obviously, most jokes suffer when both the beginning and the end are missing.

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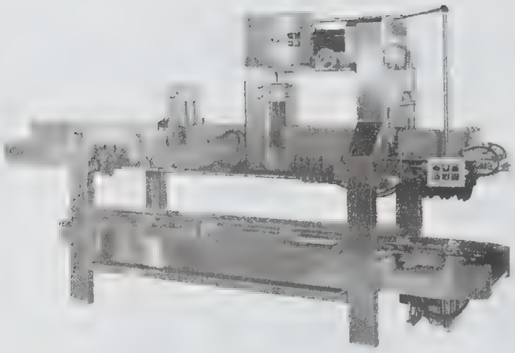


The Akron Case Packer is capable of speeds to 35 cpm and more. It incorporates gentle bottle handling with a modulated container conveyor designed for speed and control for smooth bottle handling.

The container division works on demand only—there is no extra movement of bottles if it is not required. In addition, the automatic variable speed drive allows the machine to run at the customer's line speed and to increase that speed only should excess accumulation occur.

All case packers come equipped with a forward head shift which eliminates line pressure on the containers being packed. The machine is constructed of stainless steel, including the frame, shafts, cross supports, legs, and bottle guides. All roller bearings are sealed and the electrical components are located well above the washdown line.

The case packers are designed for ease of operation. Cases or containers are easily accessed if necessary; the electrical controls are simple and easy to understand; the control station is located at the command position for the operator, and changeover is fast and easy.

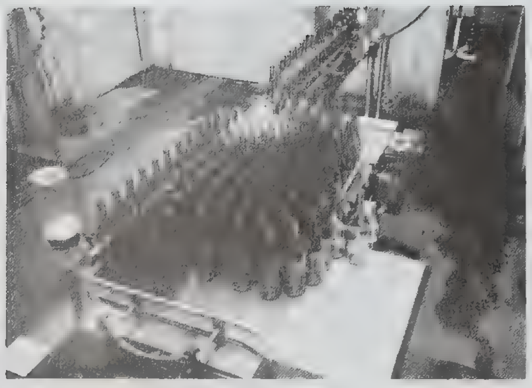
The case packer incorporates positive case handling with a flat case infeed designed for flexibility and handling a wide range of case styles. It also incorporates a built-in positive power case discharge and uses a lug chain infeed for precise case positioning each and every cycle—no matter what the speed. The case lift incorporates a cushioning effect on the direct acting cylinder which will insure the most gentle handling possible.

Options available include flap opening, double layer control, and down bottle detection.

*Inquiries to:* Akron Packaging Machinery, PO Box 311, Cuyahoga Falls, OH 44222; 216/923-0491.

**PLEASE SEE OUR AD PAGE 40**

### *Carlsen & Associates*



Design, fabrication, and installation of bottling line equipment ranging from small modifications of existing equipment for better performance to complete conveyor line systems is available from Carlsen & Associates. Pictured is a six-foot unscrambler table that, combined with a Carlsen unique unjamming device, holds more bottles than any other similar-size table available. The table, like all Carlsen conveyor equipment, is constructed of stainless steel with Valuguide rails and legs, Rex conveyor chain, and a Eurodrive gearmotor.

*Inquiries to:* Carlsen & Associates, 272 Airport Blvd., Santa Rosa, CA 95403; 707/576-0632.

**PLEASE SEE OUR AD PAGE 64**

## The Compleat Winemaker

The Compleat Winemaker sells bottling equipment or entire bottling lines for still and sparkling wines to 50 bpm. American motors and electrical are installed on foreign equipment. Installation of the equipment and continuing service are provided. In addition to bottle fillers, corkers and labelers, the following bottling equipment is available:

Conveyor lines and pack off tables are customized to individual winery needs.

Semi-automatic and hand bottling equipment include: A Compleat Winemaker designed Bottle Washer Purger with two nozzles and a semi-automatic production rate to 24 bpm with height and angle adjustment. The time sequence for washing and purging is adjustable. The sequence is initiated by a micro-sensing switch sensing the bottles in place on nozzles. An adjustable timer controls the water rinse which is followed by the inert gas purging, also time controlled. All electrical controls are 24 volts for safety.

A Foil Spinner built by Tosa Mecc in Italy accepts bottle necks up to a diameter of 42mm. The 115 volts single phase or 230 volts three phase spinner is complete with table top stand. A sliding centering base is also available.

A two-station Champagne Foil Crimper is also built by Tosa Mecc. At the first station, four pleats are produced. At the second station, pleats are pressed in the 'French manner' (front pleats are folded backward, back pleats are folded forward). The unit comes with clamps for easy attachment to a table top.

A Thermoplastic Foil Applicator built by Tosa Mecc has a rheostat-controlled cylindrical heating element for accurate and consistant shrinking of PVC foils. The unit sits on a table and comes with a simple bottle centering device. The heating element is 220 volts single phase.

A Crown Capper is manufactured by OCIM in Italy. It is a motorized, automatic cap feeder with speeds up to 20 bpm. It is adjustable from 375ml to 1.5L bottles and designed for American mold bottles.

A motorized, ROPP machine also by OCIM of Italy can handle up to 20 bpm. Interchange parts are available for different diameter caps. Automatic bottling machines includes Crown Cappers, ROPP machines, foil spinners, Bidulers by SIEM and OCIM in Italy.

The Compleat Winemaker offers gauges, such as a go-no-go gauge for use with automatic capping machines to determine if the capper is adjusted properly. A vacuum pressure gauge can test pressure or vacuum in the bottle after corking with two needles. This is not for testing champagne bottles. An Anderson gauge has a 1.5" T/C sanitary design with various pressure ranges.

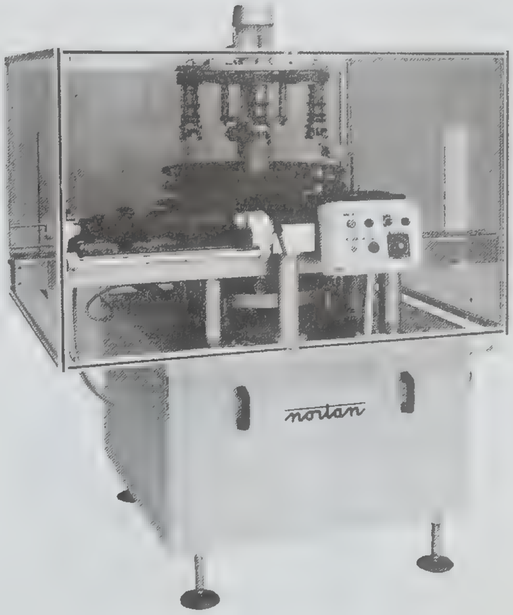
*Inquiries to:* The Compleat Winemaker, 1219 Main St., St. Helena, CA 94574; 707/963-9681.

**PLEASE SEE OUR AD PAGE 35**

## Enotech Corporation

Enotech Corporation specializes in capsules and capsuling equipment, representing two manufacturers of capsuling machines. Otto Sick of West Germany manufactures a complete line of capsule spinners for tin/lead and aluminum capsules from the semi-automatic single-head table-top Knirps model, to the semi-automatic two-head Tip-Top, as well as fully automatic rotary machines from 3 heads to 24 heads with a top capacity of 330 bpm.

All spinners can be equipped with an optional centering cradle which facilitates bottle handling and increases spinning speed up to approximately 20 bpm. Knirps spinners are portable 1-phase, 110 volt units and are available for immediate shipment from stock.

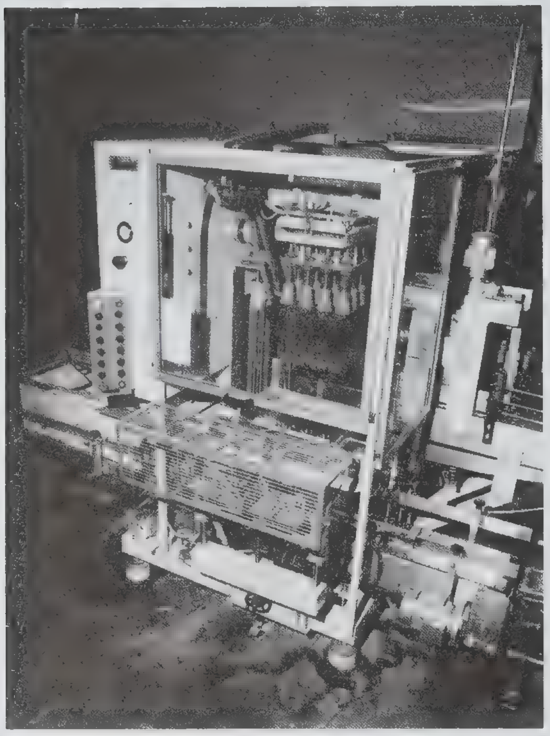


As the exclusive representative of Nortan of Italy, Enotech offers additional sizes and types of capsule spinners from fully automatic 4-head to 16-head machines. These machines are also available as a monoblock combined with automatic capsule applicators with a common infeed timing screw for synchronized, secure, and quiet bottle handling, in a very compact, space-saving and efficient design.

Capsule applicators are also available as free-standing separate machines for all types of capsules: tin/lead, aluminum, and PVC heat-shrink as well as aluminum Champagne capsules.

For PVC heat-shrink capsules, Enotech offers both heat-shrink tunnels and rotary machines with heat-shrink heads for more controlled and uniform shrinking action. A blow-dryer for additional drying of bottle necks before application of PVC capsules is also available.

## fp Packaging, Inc.



fp Packaging supplies the following bottling equipment: bottle cleaners, capsule dispensing machines for tin/lead and PVC capsules, case packers, depalletizers, foil spinners, and palletizers.

Pro.Co.Mac. is the manufacturer of a broad range of bottle cleaning machines for various treatment applications and speeds for glass bottles. Pro.Co.Mac. Gripstar and Rotostar models offer precise cleaning, sterilization and sparging treatment capabilities to suit bottles of special shapes and sizes. Each model can be used as a rinser, air cleaner, or sparger and can be mechanically linked to the filler machine enabling one operator to control both machines at the same time.

All parts in contact with bottles or rinsing water are made of stainless steel or high density polyethylene. The machines are driven by variable speed motors and protected against accidental overload by a torque limiter (overload clutch). Infeed screws, starwheels and bottle guides are easily exchangable for handling different bottle sizes. The machines can be fitted with a full covering vertical sliding window of Lexan, that automatically stops the machine when opened.

Robino and Galandrino manufactures tin/lead and PVC capsule dispensing and secondary closing machinery. There is a wide range of models depending on application and bottling line speed requirements for still and sparkling wine capsuling.

The Vulcan capsule dispensing machines are capable of applying tin/lead or PVC capsules. For high speed production requirements, capsules are dispensed with a needle and airjet system and fed into a multi-cup starwheel capable of delivering over 400 capsules/minute.

The capsule dispensing machines can be equipped with the following options: 1) extra long capsule magazine; 2) bottle neck centering device; 3) stopper detection system (no stopper—no capsule); and 4) capsule change parts for running tin/lead or PVC capsules. The machines are designed and built for ease of maintenance as the moving parts are accessible and easy to change over to either tin/lead or PVC capsules.

Berchi manufactures robotic-style automatic bottle packers. These machines come in two models. The Jolly is a single bottle pick-up head machine for smaller packers requiring packing speeds up to 10 cases/minute. The Silent model, with 2 to 12 bottle pick-up heads can handle a speed range of up to 108 cases/minute. They are designed to handle any type and shape of bottle packed into corrugated containers, trays or plastic crates.

The quick change package is standard on both models. There are no tools required to change from one bottle pick-up head to another size. The entire work cycle on all Berchi Case Packers is by programmable logic controller.

Optional equipment offered includes: 1) self-adjustable pick-up heads that automatically compensate for corrugated thickness; 2) speed variation gear for cycle speed control; and 3) oscillating bottle orienter.

In order to achieve the best results in depalletizing, Berchi machines are made in three versions to handle speeds ranging from 120 to 240 layers/hour. All models of Berchi depalletizers are built to customer specification of either 'low level' or 'high level' discharge. The modular construction allows the machines to be built according to the degree of automation required by the user.

Berchi depalletizers can be equipped with the following options: 1) pallet storage magazine; 2) automatic interlayer removal system; 3) full pallet de-stacker mechanism at the infeed station. Berchi machines are electro-mechanical and equipped with programable logic controls for the work cycle.

Bertolaso, manufacturers of corkers and still wine fillers, also build the Zeta capsuling machines with 5, 8, 12, 16, and 24 heads for smoothing tin/lead or aluminum capsules for production requirements of 25 bpm to 400 bpm. Zeta models come standard with water-proof control panels with low tension controls, mechanical and electrical safeties and can be equipped with an electric tachometer showing hourly or bpm production.

The heavy steel frame of the Zeta is covered in s/s plate and houses the self-braking electric motor, speed reducers, variator and controls for the moving bottles. Maintenance is very easy as all parts are easily reached and mounted on self-lubricating materials.

Berchi modular-constructed case palletizing machines are manufactured to suit a wide range of packaging systems requiring capacity and varied palletization patterns. Berchi palletizers are 'low level' machines with all working stations accessible at floor level for convenient and easy maintenance.

Machine capacities can range from 120 to 400 layers/hour of corrugated boxes, plastic crates, bundles and shrink-wrapped products packed in trays or without. The machines can be equipped with the following features:

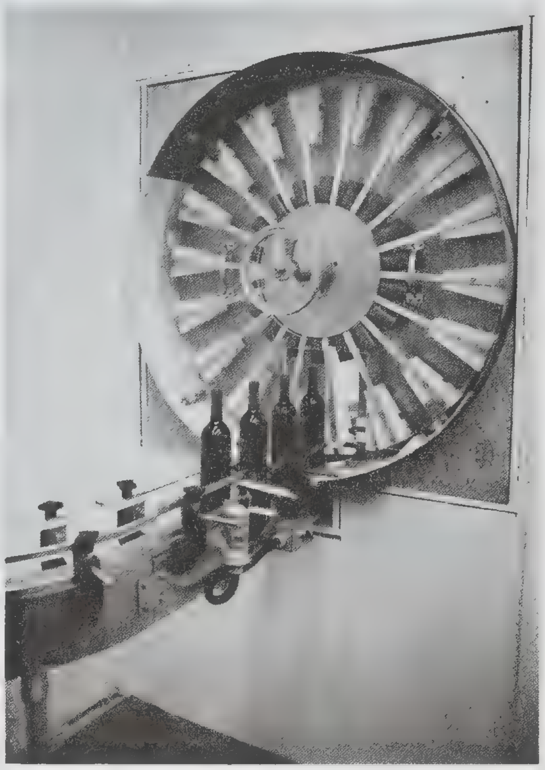
1) Full layer preparation table (while one layer is being palletized, the following

layer is being formed on the preparation table enabling the user to increase palletizing speed). 2) Pallet storage magazine that can be fitted between depalletizers and palletizers when they work as a combined unit. This saves valuable floor space and eliminates the cost of a separate pallet magazine. 3) Palletizers can be manufactured with 1, 2, 3, or 4 infeeds for greater palletizing speeds (up to 400 layers/hr). 4) Telescoping layer platform for fast and gentle product transfer and handling.

All machines are controlled with a programmable logic controller. There are no hydraulics as the entire work cycle is driven by electric motors.

*Inquiries to:* fp Packaging, Inc., 229 Ryan Way, S.San Francisco, CA 94083; 415/742-5400.

## Jagla Machine Co.



Jagla Machine Company manufactures packaging equipment including bottle cleaner/purgers, unscrambler-conveyor systems, label roll-down stations and new in 1988, multi-head foil spinners.

The model 4800 bottle cleaner is a rotary/inverter type machine that incorporates high-velocity air injection, positive vacuum and inert gas purging on each container. The machine is mounted on a fully-adjustable, four-leg, all stainless steel main frame. (An optional wall mounting kit is available.)

Bottle handling change parts are available as modular components to reduce initial cost. The 18-spoke 'Winery-Model' will accomodate all standard 1.5L, 750ml, 375ml and some 187ml bottles. Other change parts are available to accomodate up to 4L bottles, and down to 2-inch diameter bottles. The machine has a variable speed capacity from 20 to 120 bpm.

The JMC Mini-unscrambler can handle up to 100 bpm. The unit maximizes accumulation by virtue of a center-line discharge. The all stainless steel chassis has room for 15 cases of bottles.

The new JMC Label Roll-Down Station was designed to assist the user in solving most inherent labeling problems, such as: flagging edges, bubbles, wrinkles and other common maladies. The unit was designed for installation on new or existing bottling lines. A table model is available for hand labeling or re-work operations.

New for 1988 is the J-series Multi-head Foil Spinner, an American-designed and built machine. The J-series incorporates a unique design feature that allows additional spinning heads to be retro-fitted to an existing machine.

*Inquiries to:* Jagla Machine Co., 26 Woodland Ave, San Rafael, CA 94901; 415/457-7672.

PLEASE SEE OUR AD PAGE 70

## MAG USA Schymanski

MAG sells and services bottle washers / sterilizers and rotating capsule spinners/shrinkers. The bottle washers are manufactured in Europe and are fully automatic and come equipped with a conveyor belt. The capacity of these machines is betwen 20 and 900 bpm and can be attached to any existing bottling line.

The bottle washer's cycle includes three steps: 1) washing and cleaning with NA OH (1.3%–1.5%); 2) sterlizing with $SO_2$ solution; 3) bottles are rinsed again with sterile water, turned upside down to drip dry, and returned to the conveyor belt.

Capsule spinners are available that can handle aluminumn or tin/lead capsules and be added to any existing bottling line. Models are available with 4, 6, 8, 10, 12, 16, or 24 heads which allow for an output between 15 and 400 bpm. Standard equipment includes: full stainless steel plated frame, speed variation, infeed timing screw and

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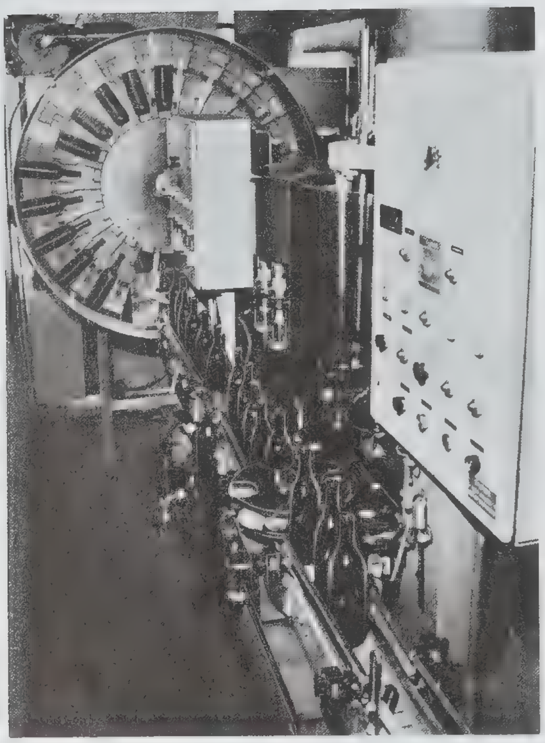
center star, counterrails for bottle control during spinning cycle, safety devices and micro-switches, straight-on passage of bottles is available. An automatic air-driven capsule dispenser is available as an option.

*Inquiries to:* MAG USA, PO Box 5060, Napa, CA 94581; 707/253-0672.

## McBrady Engineering, Inc.



The Orbit Bottle Cleaner/Gas Injector is manufactured by McBrady Engineering for the air cleaning and gas flushing of wine bottles prior to filling. More than 35 Orbit machines are installed in US wineries.

The Orbit Cleaner is available in four different models depending on the required line speeds and also with a water / air / gas injector option. The newest addition to the Orbit line is the Model #60 with a speed capability of from 20 to 100 bpm for 750ml bottles. The other larger models, #100, #200 and #220, have speed capabilities of up to 250 bpm.

The Orbit Cleaner/Gas Injectors are constructed of all stainless steel and plastic and are designed to mount directly on and over an existing line conveyor or unscrambling table requiring as little as 25 inches.

Included, as standard on all of the cleaners, is an electrical control package for automatic solenoid control of both the air and gas. Also provided are two complete 2-stage filter packages featuring an initial 40µ filter, followed by a 0.3µ coalescing filter for purer air and gas flushing.

All Orbit Cleaners feature a Morse Torq Gard and Limit Switch. When a rotor stoppage occurs, the motor is automatically stopped and both air and gas are shut off.

For handling other bottle sizes, 375ml and 1.5L on a short run basis, change parts are available on a daily rental basis. All four models are also available as combination water rinse/air rinse and drain gas injectors.

*Inquiries to:* McBrady Engineering, Inc., PO Box 204, East Hazel Crest, IL 60429; 312/798-6565; or King Sales & Engineering Co., 4949 East 12th St, Oakland, CA 94601; 415/533-8350.

PLEASE SEE OUR AD PAGE 60

## Process Engineers, Inc.

A Bottle Blower has been designed to fill the need between the 2-nozzle hand-operated sparger and a fully automated rinser/sparger by Process Engineers. The PEI Bottle Blower/Sparger mounts on your conveyor, functioning automatically as bottles pass on the conveyor.

The cycle involves: 1) a s/s tube descending into the bottle; 2) nitrogen blows case dust from the bottle for a pre-determined period of time; 3) a nitrogen atmosphere remains in the bottle as the s/s tube ascends; 4) capacity is up to 84 bpm with a 1.5-second blow (adjustable blow time).

Also available from Process Engineers is a Rotary Foil Spinner built by Stone of France to fit on conveyor lines. Spinners are available with 4, 6, 8, 12, 16, 20 and 24 heads with corresponding capacities up to 250 bpm using tin/lead capsules. The Stone spinner comes complete with all electrical controls and motors, 3/60/230-460. The frame is stainless steel clad and designed for easy cleaning and maintenance. The Stone spinner is adjustable for bottle height and bpm.

*Inquiries to:* Process Engineers, Inc., 3329 Baumberg Ave, Hayward, CA 94545; 415/782-5122.

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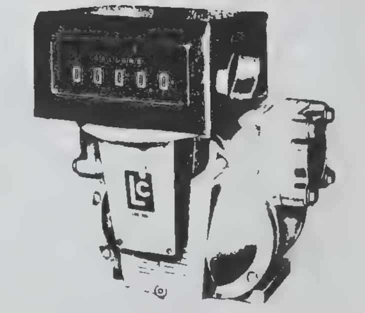

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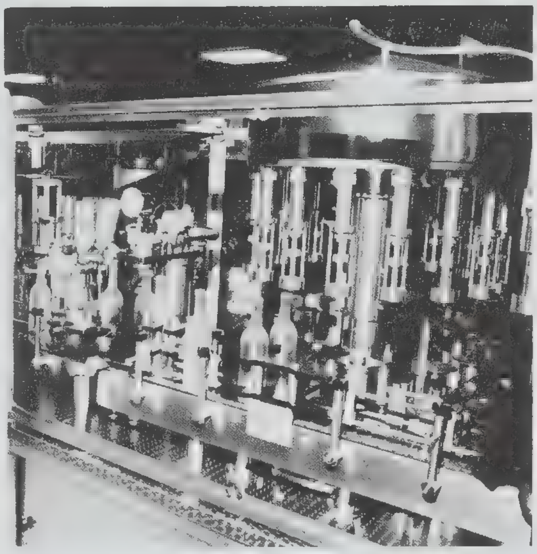
## Prospero's Equipment Corporation



GAI, represented by Prospero's in the United States, introduced the model 3004 filling system at the SEMI Exhibition in Milan, Italy in December, 1987. The machine features in monoblock, a complete system for bottle sterilization, sparging, filling and corking.

Production capacity is 3,000 bph. Any bottle size between 187ml and 1.5L can be filled. The bottle size capacity can be changed in 15 minutes.

The first operation on the monoblock is the bottle rinser/sterilizer with its own recirculation and filter system for the rinse/sterilizing liquid. A separate 25-gal s/s tank holds the rinse liquid (water, $SO_2$ solution, wine, etc.). A s/s pump forces it through a filter to remove all particulate matter before it is directed into the rinser.

After rinsing and draining, the bottle is passed to a vacuum sparger. In order to eliminate all oxygen pick-up in the filling operation, all air is first removed from the bottle by a powerful vacuum pump. Then an inert gas of the bottler's choice is injected into the bottle.

The filler is a 16-spout unit with the option of using either gravity fill or low vacuum. After filling, each bottle is individually headspaced to within one millimeter of the others and inert gas injected into the necks to insure no oxygen can be trapped in the bottle by corking. The corker is a four-jaw unit with the option of selectable vacuum or non-vacuum corking. Each cork is dusted by means of a special blower before insertion.

Prospero's also offers special purpose closure machines and foil spinners manufactured by GAI. There is the 416 series special purpose machine which is a powered base unit and conveyor that fits into an existing filling line. Bolt on modules allow it to become a single-head foil spinner, screw capper, crown capper or pilfer-proof capper. This is done by having the modules bolted on each of the four sides of the central column of the machine.

This machine allows a winery to add any type of closure that new products require without buying a complete new machine. Production capacity is up to 3,000 bph (50 bpm). Conversion from one operation to another takes only minutes. Two bolts are removed from the central column that holds the closure machine. The column is then revolved till the desired machine is in position, then the bolts are secured.

For higher speed lines, GAI offers the 4164, 4164D, 4168 series of tin/lead foil spinners, all with the option of automatic foil distribution. The 4164 is a four-head spinner and the 4168 is an 8-head model. All GAI machines use the same model 406 spinner head. Foil distribution is available at up to 6,000 bpm by Prospero's new O.M.O. distributors.

*Inquiries to:* Prospero's Equipment Corp., P.O. Box 243, Pleasantville, NY 10570, 914/769-6252. In California: 840 Piner Road #14, Santa Rosa, CA 95401, 707/523-2900 or 715 Arroyo Ave., San Fernando, CA 91340, 818/365-4403. In the northwest U.S.: Steve Scholz & Assoc., 31960 Charbonneau Dr. #105, Wilsonville, OR 97070, 503/694-5252.

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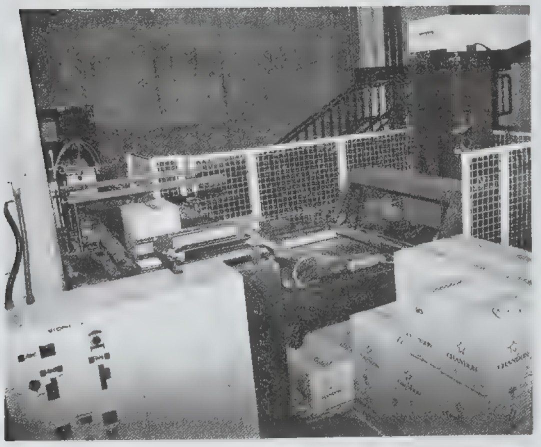

## Scott Laboratories, Inc.

Uni-Twist 'In-Line' Bottle Rinsers are available from Scott Laboratories. These U.S. built twist-style, rinsers are incorporated in wine bottling lines for sanitizing rinse and pure water rinsing of wine bottles. They feature all stainless steel construction.

Stork Bepak B.V. case packing and palletizers are also available. The Stork ELEWRAP 400 compact wrap-around packer operates by forming and wrapping a die-cut corrugated case around a pattern of wine bottles providing partionless cases.

The Stork CENTURION 4000 Palletizer utilizes a unique space-saving design—one column on a turntable. Flexible layouts are possible for case accumulation and pallet loading.

*Inquiries to:* Scott Laboratories, Inc., 2955 Kerner Blvd., San Rafael, CA 94912; 415/457-8460 or 800/821-7254 outside California.

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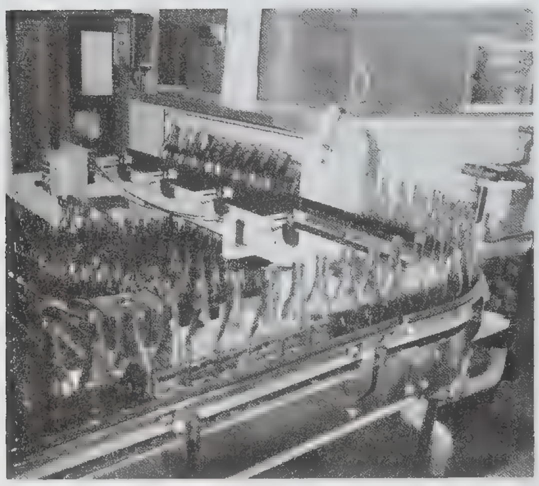

## SEN Machines, Inc.

SEN Machines, Inc. offers the product line of their German parent company, Seitz Enzinger Noll AG including: the Tauchstella, a rinser/sterilizer with an output range from 50 to 350 bpm. The Consul is an unpacker/packer with speeds up to 70 cases/min.

The Lord depalletizer and palletizer is for medium and high-speed operation. Bulk glass palletizers are available. Bottle combiners and bottle dividers are also available for high speed lines.

In addition to the above equipment, SEN Machines, Inc. also represents JMC (Jagla Machinery Company) and their line of bottle cleaners/spargers and complete conveyor systems.

*Inquiries to:* SEN Machines, Inc., 1350 Industrial Ave, Suite G, Petaluma, CA 94952; 707/763-4844.

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# LINES ON VINES

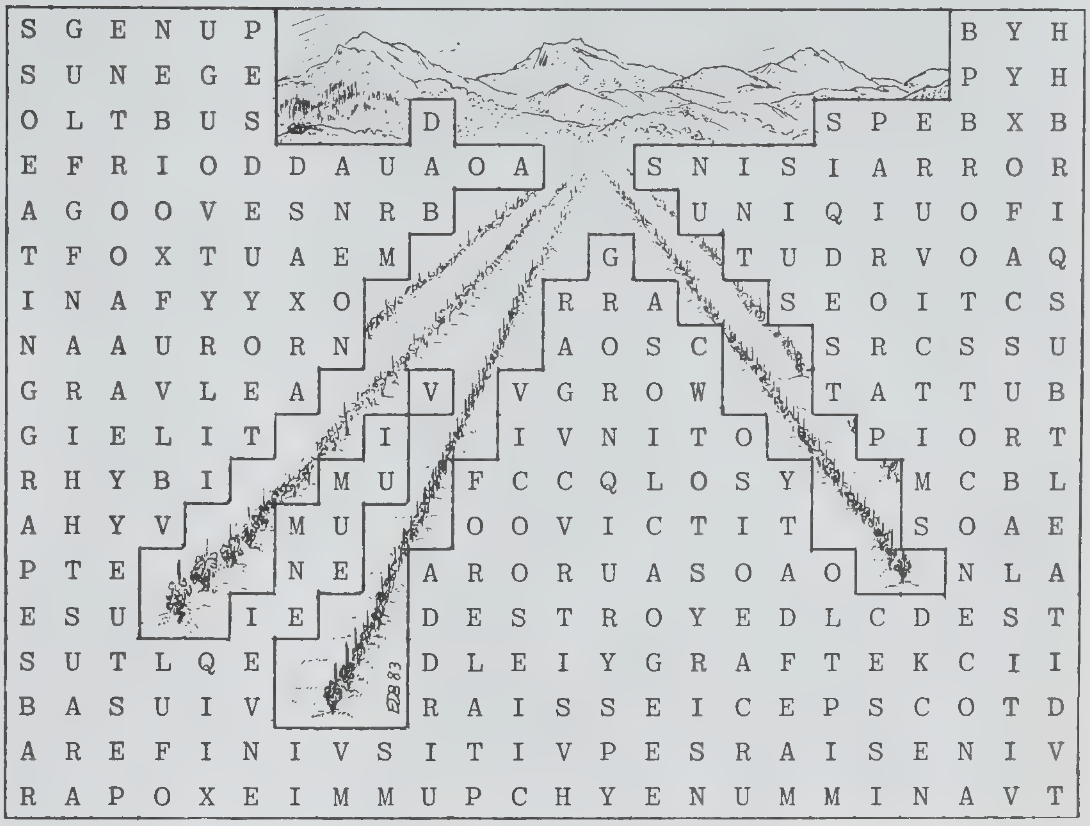
**Climbing around in our vineyard are the underlined words below. Can you circle them all?**

All grapes belong to the scientific *genus VITIS.* Grapes that make the world's most famous wines (Cabernet Sauvignon, Chardonnay, etc.) are of the *vitis vinifera* species and grow well in Europe and the western U.S.

They did not flourish in many other U.S. areas, so winemakers relied on *native* American vines, such as *vitis labrusca* (the Concord and Catawba grapes) and on French-American hybrids, such as the Aurora grape. Native vines produce wines with a grapey, "foxy" taste. Because they're so different, many *vinifera* lovers don't like them.

Each vine type and grape has its unique soil and weather needs, yield capacity, and best use (eating grapes, raisins, and common or fine wines).

In the 1870's, the *phylloxera vastatrix* bug destroyed almost all of Europe's vineyards. Today, most *vinifera* vines in Europe and elsewhere are grafted onto American rootstock, most of which is immune to the hungry pest. Recently some Monterey, Calif., growers planted *vinifera* vines on their own roots and soon became modern victims of the *phylloxera* plague.



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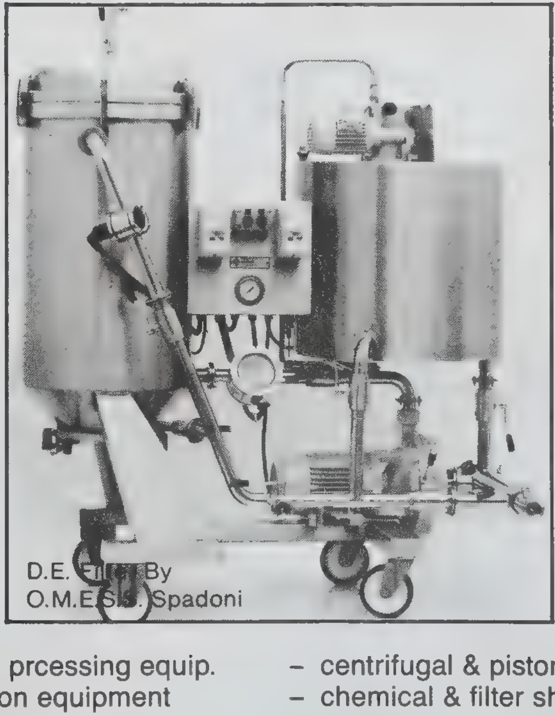

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"Many bartenders claim they pour wine so fast they don't need a nitrogen system. That isn't always true. Often, there are opened bottles that sit for several days and that's when wine degenerates."

**Tasting bar customers have their own cards on file at the bar.**

In a brainstorming session to promote wine sales at Detroit's Omni Hotel, Sheer and sommelier Claudia Tyagi came up with an idea modeled on an airline's frequent-flyer program. It developed into the 'Cruvinet Tasting Card' which lists 30 available wines at Tastings, the hotel's wine bar.

Half of the Cruvinet is refrigerated and holds 14 white wines (5 California, 2 Michigan, 3 French, 1 German, 1 Oregon, 1 New York, and 1 Australian). The other half holds 14 reds (10 California, 2 French, 1 Australian, and 1 Lebanese). Two sparkling wines (1 French and 1 Italian) are fitted with pressure closures and refrigerated.

### Tasting Cards

Each customer's name is at the top of his/her tasting card, which remains at Tastings. When customers come in, they pick up their card and the waitstaff records each 2-oz tasting serving or 6-oz glass of wine purchased. Each tasting card has the complete wine names listed and space for notes. After seven wines are purchased, an 'oenological prize' (free pour) is offered.

The lowest prices for a 6-oz serving are $2.75 for the White, Rose, or Blush 'Wine du Jour' and $3.00 for the 'Red Wine du Jour' (choices change daily and the customer is directed to inquire about the day's pour). The top price is $13.25 for 1977 Robert Mondavi Reserve Cabernet Sauvignon. Two-ounce tastes of the same wines are $1.10, $1.20 and $5.30 respectively. Corresponding bottle prices are $13.75, $14.75, and N/A by the bottle.

Sheer does not like the concept of house wines. He is quick to

## OMNI INTERNATIONAL HOTEL

## Tastings

comment that Wine du Jour is not a house wine; it has more versatility. "If we have a wine to move, this is a way to do it. We also use it if we don't have sufficient supply of a wine to put it on the Cruvinet for three months, the length of time we keep a particular 'Tasting Card' selection. It's also a way to bring a new wine to the attention of our customers or to test a wine's attraction."

The 2-oz taste was initiated by customers who wanted to taste more wines, but couldn't drink several glasses of wine and then drive home. Many can drink three 2-oz tastes (equivalent to one glass) and drive.

Serious wine consumers can be seen in Tastings with three 2-oz samplings in front of them, writing notes on their Tasting Card. Of some 250 people with cards on file, most are business professionals with offices in downtown Detroit or out-of-towners who frequent the city on business.

"We wanted something that makes us unique in the marketplace," says Tyagi. "We believe in the versatility of a large Cruvinet system and we attract attention with it. Wine by-the-glass is **in** and the Cruvinet gives customers the chance to try many more wines than they would otherwise."

### Multiple Advantages

Sheer points out other advantages of the system: rare, expensive, and unusual wines can be offered to the serious consumer. A recent list offered 6-oz glasses of three different Robert Mondavi Reserve Cabernet Sauvignons: 1977 ($13.25), 1978 ($12.50), and 1980 ($10.75). Two-ounce pours were $5.30, $5.00 and $4.30 respectively. These wines were unavailable by the bottle.

A unique use is the presentation of verticals. If a restaurant has three vintages of Mondavi Reserve Cabernets on the wine list, that's fine, but three trips are needed to taste them all. With a large Cruvinet, diners can taste all three, then order a 6-oz glass of their favorite.

The program, begun in January 1986, has been more successful than anticipated. Within the first 60 days, there were 200 tasting cards on file. It has also been a tremendous personalizing catalyst. When 'Tastings Wine Bar' customers ask for their tasting card, they ask by name. The waitstaff gets to know the customers personally, and that helps business. The names of customers with a tasting card are placed on a select guest list for special wine and food events.

Other Omni International Hotels have Cruvinets, but the Tasting Card originated in Detroit. Sheer, a pragmatist, is very direct, "Actually we said to ourselves, 'what the hell are we going to do with 28 spigots on a Cruvinet?' We needed to start a program to attract customers and create some enthusiasm for

*continued on page 65*

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# Protein Fining Agents: Part IV

*Bruce Zoecklein, Enologist*
*Dept. of Horticulture*
*Virginia Polytechnic Institute & State University*

## ISINGLASS

Isinglass is a positively-charged protein fining agent produced from fish collagen (Sturgeon swim bladders). Responses to a *PWV* fining agent survey indicated that isinglass fining is used principally to improve clarity, palatability, and finish. Fifty-six percent of the winemakers responding use isinglass in white wines, 15% in sparkling wine cuvees and 10% in red wines. This agent is not used in prefermentation juice fining.

Isinglass is available in two forms. Sheet isinglass often must be laboriously hydrated, rinsed and re-rinsed many times to remove the fishy odor. Flocked isinglass, because of its purity, generally needs only to be hydrated and perhaps rinsed. Flocked isinglass must be stored cool prior to hydration.

Hydration of flocked isinglass should be performed using cold water (60°F [16°C]). If prepared in hot water, it undergoes partial hydrolysis resulting in a reduction of its molecular weight from 140,000 to between 15,000 and 58,000. Such a reduction in the molecular weight significantly affects the fining ability of isinglass, rendering its activity more gelatin-like.

Seventy-five percent of the winemakers using isinglass reported hydrating at a temperature of 60°F; 18% hydrate at 105°F; 7% at 50°F or less.

A typical preparation method for flocked isinglass is given by Rankine, 1984: To a 250-L vessel, add 60 liters 10°C water, 500 grams of citric acid, and 140 grams of potassium metabisulfite. Mix and add slowly 1 kg of powdered isinglass. Continue mixing until uniform.

Allow this solution to stand overnight at no greater than 15°C. Increase the solution volume the next day to 200 L. Further mixing may be required. If particle size is excessive, rub the isinglass solution through a low mesh screen.

This solution contains 5 grams of isinglass/L, 2.5 grams citric acid/L and 350 mg/L sulfur dioxide. If stored cool it can last for some time. It should be noted that some flocked isinglass already contains both citric acid and potassium metabisulfite.

In white wines, isinglass can occasionally be used to unmask or bring forward fruit flavors, while not significantly affecting tannin levels. In the PWV survey, 14 of 57 winemakers used isinglass for this purpose. Table 1 shows the relationships between various fining agents, juice and wine parameters.

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Table 1
COMPARISON OF FINING AGENTS[1]

| Color Removal | Tannin Removal | Quantity of Lees | Tendency to Overfine | Clarity and Stability | Quality Impairment |
|---|---|---|---|---|---|
| carbon | gelatin | bentonite[2] | gelatin | bentonite | carbon |
| gelatin | albumen | gelatin | albumen | ferrocyanide | bentonite |
| casein | isinglass | casein | isinglass | cufex | casein |
| albumen | casein | albumen | casein | carbon | gelatin |
| isinglass | bentonite | isinglass | ferrocyanide | isinglass | albumen |
| bentonite | carbon | ferrocyanide | cufex | casein | isinglass |
| ferrocyanide | ferrocyanide | cufex | | gelatin | ferrocyanide |
| cufex | cufex | carbon | | albumen | cufex |

[1] most to least effect.
[2] usually twice the lees of other agents.

Isinglass removes more leucoanthocyanidin, but less condensed tannins, than gelatin or casein (Rankine 1984). Condensed polyphenols are principally responsible for astringency. Therefore, isinglass has a less dramatic effect on both wine astringency and body reduction than other protein fining agents (see Table 1).

Color removal with isinglass is inferior to both gelatin and casein. Isinglass requires little tannin to precipitate (see Table 1). Most wines possess sufficient quantities of tannin to aid isinglass precipitation. However, 20% of the winemakers in the PWV survey, using isinglass, added tannin or kieselsol prior to isinglass fining.

Colvite is a French isinglass solution used in conjunction with Boltane (an enological tannin) as a riddling aid in methode champenoise. The addition levels range from 500 to 750 milliliters per 1000 gallons of each. Generally, slightly more Boltane (1 to 3%) than Colvite is utilized.

Isinglass has several advantages over gelatin for white wine fining. First, weak doses often result in better clarification and greater brilliance than equal doses of gelatin (Ribereau-Gayon et al. 1972). Second, since isinglass requires less tannin to precipitate, it has a less dramatic affect on overall wine character. Third, clarification with gelatin is enhanced at low temperatures. Isinglass clarification appears to be much less temperature-related (Ribereau-Gayon et al., 1972).

Isinglass has some significant disadvantages for the winemaker. First, the weak density of the flakes which form following its addition into wine can produce voluminous sediment (≥2%).

Second, particles may attach themselves to the sides of casks or barrels and take a long time to fall. This difficulty usually can be minimized by counterfining with bentonite.

Third, depending upon the source and age of the fining agent, laborious rinsing may be required to remove the fishy odor of the slurry. It is essential that only isinglass of the highest purity be utilized.

Isinglass can be utilized anytime during the winemaking process. Many producers fine with isinglass after ageing, leaving white wine clean to the taste and sparkling clear without stripping the newly-formed bouquet. The amount of isinglass used ranges from approximately ⅛ to ⅓ lb/1000 gallons.

According to our survey, 57% use isinglass in the ⅛ lb/1000 gallon range, 32% use approximately ¼ lb/1000 gallons, and 10% use ½ lb or more per treatment.

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# Méthode Champenoise

*Bruce Zoecklein, Enologist*
*Department of Horticulture*
*Virginia Polytechnic Institute & State University*

## Tirage

After sealing, sparkling wine cuvees are stored for the Prise de Mousse (secondary fermentation). The storage method is dictated by economics, the intended riddling system, and space considerations. There are several bottle storage systems.

*Sur lattes*—stacking bottles on the floor—is labor intensive, but it can add esthetic appeal to a cellar. One person can stack approximately 2,000 bottles/day. This system requires considerable bottle handling from cuvee line to stack, poignetage and riddling system.

Another option is to use bins. Wooden or caged bins can hold from 380 to 500 or more bottles and can be stacked, thus requiring much less floor space.

A third method of bottle storage is to place bottles into cartons (the same cartons which will go to market), allowing the secondary fermentation and riddling to transpire in those cartons. This is a system designed and patented by California's Korbel Champagne Cellars. Twenty pallet loads are secured on a conveyor which employs a shaft to shake the wine gently and evenly on a programmed cycle. Air bags inflate and tilt the bottles by lifting one side of the pallet.

During binning in either cases or cartons, most producers at some point store their bottles with the neck slightly down, so that the air bubble in the bottle moves away from the neck toward the back of the bottle. This helps to avoid staining the neck and allows the winemaker to use the bubble as a 'scrubber' to free stuck yeast deposits prior to remuage (riddling).

The bottle storage area should be cool, with minimal temperature fluctuations and minimum lighting. Green glass helps filter out ultra-violet light which can produce methyl mercaptan and alpha-aminobutyric acid (Thoukis and Stern 1962). Both compounds, even in very low concentrations, contribute to objectionable odors. If flint (clear) glass is used, the production of reducing compounds must be avoided by storing bottles in a dark place.

The rate of secondary fermentation is a function of the yeast, yeast volume, temperature, and cuvee chemistry. The rate is increased by high pH, high yeast nutrients, low phenols, low ethyl alcohol content, low sulfur, and low carbon dioxide pressure (Reed and Peppler 1973). Winemakers can therefore control the fermentation rate through processing techniques.

The fermentation temperature is usually not lower than 48°F (8.89°C) and not greater than 55°F (12.78°C). Some prefer a secondary fermentation temperature of 12°C (54°F), believing that this has an effect on the amount of chemically and physically bound carbon dioxide (Merzhanian 1963).

High secondary fermentation temperature is believed to result in coarse (larger) bubbles, with less retention (Brusilovskj et al. 1977). Bottles dissipate heat quickly, so heat buildup usually is not a problem.

Other factors affecting bubble retention include yeast strain, the nature of the still wine, and the length of time under pressure in contact with yeast (Berti 1980). Fermentation at 12–15°C lasts about 1 to 1.5 months.

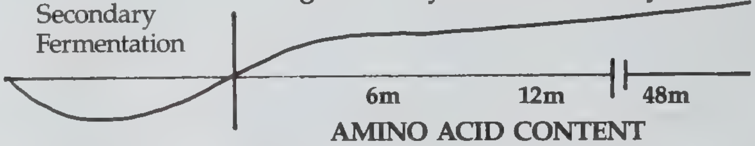
Fermentation in the bottle can often be observed as a ring of $CO_2$ bubbles around the base of the air bubble. The progress of the fermentation can be monitored by examining either the reducing sugar, bottle pressure, or both.

The cause of poor fermentation in the bottle may be attributable to a poor starter (low inoculum, poor budding), low temperatures, or undesirable cuvee chemistry.

Sparkling wine bouquet is a function of both yeast autolysis and ageing (Rodopulo 1961). Storage of sparkling wine *sur lie* allows yeast protolytic enzymes to cause the degradation of cytoplasmic constituents. As a result of storing wine in contact with yeast, there is an enrichment of the wine with amino acids (Bergner and Wagner 1965).

While amino acid enrichment receives the most attention, other compounds are involved as well. Esters, amides, fatty acids, terpenoids, etc., all are known to increase due to yeast autolysis. The products of yeast autolysis and ageing not only improve flavor, aroma, complexity, and depth, they also perhaps enhance $CO_2$ retention and bubble size (Amerine and Monagham 1950).

**Figure 1 Cycle of Yeast Autolysis**



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During the secondary fermentation, there is an accumulation in the yeast cells of amino acids from the cuvee. At the end of fermentation, when the sugar has been depleted, the yeast restores the amino acids to the medium. This is not autolysis, but simply a free exchange back to the wine. The exchange occurs at a more rapid rate if a source of ammonia nitrogen is added to the cuvee (Sarishville et al. 1976).

Addition of ammonium phosphate reduces the uptake of amino acids by yeast and favors their excretion (Bidan 1975). After this excretion of amino acids by the yeast at the end of the secondary fermentation, the concentration of amino acids remains stable for several months.

Yeast autolysis then begins with a slow rise in the amino acid concentration. Suarez et al. (1979) noticed that the concentration of amino acids during yeast contact did not vary significantly between the 3rd and 12th month of contact. The concentrations of amino acids did increase between the 12th and 43rd month *sur lie*.

Feuillat and Chapentier (1982) outline in detail the changes in amino acid content during ageing. They found that after six months a sparkling wine contains 12% greater amino acids than its base cuvee. At 12 months, the amount is 24.5% greater, and by four years a sparkling wine has a 25% greater amino acid content than its base wine (see Figure 1).

The proline, lysine, leucine, glutamic acid, isoleucine, phenylalanine, serine, and valine concentrations increase significantly with age in bottle fermented sparkling wines (Bergner and Wagner, 1965).

Autolysis is dependent upon pH, ethanol concentration, and temperature (Feuillot and Chapentier 1982). Feuillot and Charpentier showed an increase in nitrogen in Champagne at elevated temperatures.

It is likely that all yeast cells will be dead after ageing for 12 months at temperatures of 15°C or below (Stashak 1983). Ageing bottles at elevated temperatures accelerates the autolysis process, but it is believed to have a detrimental effect on both bubble retention and sensory attributes (Baldwin 1980).

The difference in amino acid constituents of the cuvee and the final wine influences the character and complexity of sparkling wines (Schanderl 1943). These differences, and the changes that occur during ageing, help explain the sensory differences between méthode champenoise and Charmat process sparkling wines (Janke and Rohr 1960).

The characteristics of good sparkling wine derive from the soil, from the grape varieties employed, and from know-how in production, particularly in blending and ageing. Adequate ageing *sur lie* is needed to develop roundness in the body, general flavor, and complexity.

The development of what some call a 'yeasty' character does not refer to 'bready' yeast fermentation aromas, but to a toasty character which results from ageing and yeast autolysis. The maturation period is critical in the production of good sparkling wine and must take place before disgorgement and dosage.

If this maturation does not occur during ageing in contact with the yeast, it will not be attained later. The dosage liqueur can only slightly influence sparkling wine palatability. In fact, sparkling wines may not be sold as Champagne in France if they have not been kept on the yeast for at least nine months (Forbes 1982).

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# Essence of Guerrilla Marketing

*Jay Conrad Levinson*

*Guerrilla marketing is a combination of strategy and tactics enabling companies in the wine industry to market their products with imagination and energy rather than with the brute force of a huge budget.*

*The essence of guerrilla marketing can be understood if you remember just seven words—each ending in the letters **ent.***

### Assortment

Marketing is more than advertising, more than promoting, more than creating a great label and point-of-sale display. It is a multi-faceted process consisting of at least 100 components from media advertising to customer service. Thus, the first word to remember is ***assortment***. The greater the assortment of marketing vehicles you employ, the better marketing will work for you.

Some vintners think that if they advertise regularly, have a nifty slogan, train sales people, and have an attractive shipping carton, they are conducting an all-out sales campaign.

Guerrilla wine marketers know that they can gain free publicity for new wine releases, that attractive window displays and in-store signs help capture part of the 64.8% of sales that are impulse purchases, that gift baskets and table tents are tools of marketing, and that targeting restaurants can have a powerful effect on sales.

Guerrilla wine marketers do as much as they can with as many of the 100 marketing components in order to gain the biggest volume of sales at the lowest possible cost per sale. Happily, many of the components, such as tastings and existing research studies, are free. The bigger your assortment of marketing vehicles, the more beautiful your bottom line.

### Commitment

It is crucial to begin any marketing campaign with a clear and simple plan. Since marketing does not usually take effect immediately, you must commit to a plan. Stay with the plan, the media and the thrust. The second word, therefore, is ***commitment***. I hate to admit it, but mediocre marketing with commitment works better than brilliant marketing without commitment.

Studies show that a marketing message must attract the attention of prospective customers nine times in order to take them from a state of total apathy to a readiness to buy. For every three times you put out the word, prospective customers will see or hear it only once. You've got to expose your message 27 times so that customers will see or hear it nine times.

Most wine marketers figure they're doing something wrong after they put out the word 5 or 6 times and the universe does not beat a path to their store displays. They then change their message, their media, or both. Guerrilla marketers realize that only with commitment will the right message reach the right people.

### Investment

The third word describes the cost of marketing. It is not so much an expense as an ***investment***, and a conservative one at that. If you commit to your investment, it will prove to be among the very wisest you can make.

If you purchased a stock and it went down a few points, you wouldn't throw away your stock certificate. You'd hold on to it and give it a chance to pay off. Yet many misguided vintners

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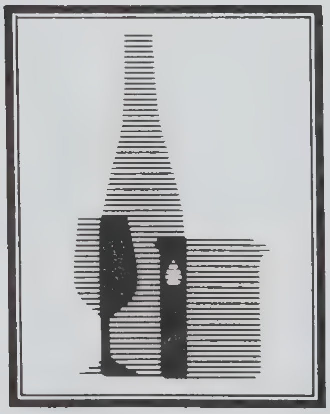

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invest in marketing, see no instant results, then cease their marketing investment, never giving it a chance to pay the rich dividends it is capable of paying. That is far less likely to happen if you regard your marketing expenditures as an investment.

### Consistent

People gain faith in you once they determine you are solidly behind your marketing message, so don't change your message or format. The idea is to be ***consistent***, the fourth word that is a key to successful marketing.

People tend to purchase wines that have built up a sense of familiarity. Consistent marketing breeds familiarity. Inconsistent marketing does just the opposite—it shows that you are unstable and undermines consumer faith in your winery.

I admit that it is not easy to maintain consistency, because employees, friends and family who are bored with your marketing program will counsel you to change your marketing. Prospective customers, however, will not be bored for a long, long time. Stick with it. If you want to be profitable, be consistent.

### Confident

The fifth word describes the single most powerful influence on sales. According to a broad national study, the fourth most powerful influence on sales is selection, the third is service, and the second is quality. What is the first? People purchase brands they feel *confident* in.

It's interesting how building confidence in your wines is tied so closely to making a commitment and being consistent. When prospective customers see you put forth the same message, using the same format and the same media, they unconsciously assume you are doing something right—otherwise, you'd change.

This gives them confidence in your brand and makes them want to buy wines you're selling. Think about it. Don't you buy the products you have confidence in? I certainly do.

### Patient

Since marketing takes time to work, you shouldn't expect miracles or instant results. Give your marketing program a chance to penetrate the consciousness of prospective customers. The idea is to be *patient.*

Through the years, I have observed that the personality traits of successful guerrilla marketers are patience; ego strength (to resist suggestions from loved ones that they change their message); imagination (in media, research, marketing thrust and product positioning); sensitivity (to the times, the marketplace and the competition); and aggressiveness in marketing. Although aggressiveness will probably make you successful, being patient is even more important.

### Subsequent

Alas, many vintners know these six words, but they think that marketing ends once they've made the sale. Guerrilla marketing dictates that you continue to market ***subsequent*** to the sale. That's how you gain repeat and referral business.

Without question, the vast majority of business lost is due to apathy after the sale. Guerrilla marketers know that marketing begins after they've made the sale.

Each customer represents at least three sales to the entrepreneur: the original sale, the repeat sale, and the referral sale. If you allow apathy to set in after the original sale, you will lose out on the other two sales and the countless sales that can grow from them.

Treat the customer as a very special person, capitalizing on the fact that they purchased your wine. Thank them for the sale with a sign. Tell them about your other products. Gently ask for referral business.

Create compelling back label copy, a motivating hangtag or a brochure available from retailers. Few wineries go to the time and effort, so you will be remembered for the pride you take in your wines. Recognition of that pride will pay off in the form of repeat and referral business.

***Assortment, Commitment, Investment, Consistent, Confident, Patient, Subsequent***. It would be mistaken to say that's all a vintner needs to know about marketing. However, if you memorize and live by these principles, I can only predict success for you in your competition against vintners who don't understand these seven basic concepts.

*Jay Conrad Levinson is the author of GUERRILLA MARKETING. His "Guerrilla Marketing System & Newsletter," books, tapes and consulting services may be obtained from Guerrilla Marketing International, PO Box 1336, Mill Valley, CA, 94942. Or call toll-free 1-800-621-0851 (Ext 140).*

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**APRIL 15, 16**

***Third Annual Brewers & Vintners Technical Conference*** at Seaclift Inn, Aptos, CA. Topics will include: Ethyl Carbamate, An Update – Arthur Caputi, Jr., chairman Wine Institute Subcommittee on Ethyl Carbamate; Utilization of Yeast Hulls in Winemaking – Vicki Wahlstrom; An Update on Proteins in Brewing – Ian Robertson; Winegrape Growing in California – Richard Nagaoka; Malt Analysis and What They Mean – Pat Martindale, Great Western Malting Co.; Mashing – How Brewers Control Alcohol in Beer – Frank Kirner, Anheuser Busch; Application of Integrated Software – Phyllis Sharon, Lotus Publishing. Program includes registration on April 15, lunch and a banquet on April 16. Lunch keynote address will be "Brewing and Vinting" by Fritz Maytag, Anchor Brewing. For registration, contact: Rick Boccolini, Great Western Chemical Co., 200 Santa Fe Ave., Fresno, CA 93721, 209/485-4150.

**APRIL 24, Sunday [Rescheduled from April 30]**

***Sensory Evaluation of Wine: Chardonnay and Cabernet Sauvignon*** / Sect #874E06 see PWV Calendar Jan/Feb 1988 page 51.

**JUNE 22–24**

***Annual Meeting of American Society for Enology and Viticulture*** at Bally's Hotel, Reno, Nevada will feature supplier's exhibits and technical sessions including timely topics, newest research, 'toxics' forum, sensory symposium, ethyl carbamate update, and workshops. To register contact: ASEV, PO Box 1855, Davis, CA 95617, 916/753-3142.

## *Grapegrowing/Winemaking Courses University Extension, UC Davis, CA*

**APRIL 30–MAY 1 Saturday / Sunday [Rescheduled from April 9–10]**

***Introduction to Sensory Evaluation of Wine*** / Sect #874E05 A beginner's class to improve the critical tasting ability of novice enophiles which includes a structured introduction to basic aspects of sensory evaluation. Participants will study different components of wine appearance, aroma, and flavor. Topics will include: origins of desirable and undesirable flavors in wine; sensory contributions of oak and bottle ageing; and correct use of wine terminology and scorecards. **Instructor:** John Buechsenstein, winemaker, McDowell Valley Vineyard. **Time:** 9am–4:30pm. **Location:** Lounge, Faculty Club, Old Davis Road, UCD. **Fee:** $225 includes 2 lunches, pre-enroll by April 22.

**MAY 7, Saturday**

***Potstill Brandy Production*** / Sect #874E21 Designed for wine industry members. Topics include: Overview of potstill operation – Roger Boulton, UCD; Marketing and economics of potstill distillates – Ainsley Cole, Alembic Inc.; Behavior of trace components – Bill Knuttel, Saintsbury; Preparing base wines for distillation – Miles Karakasevich, consulting enologist; Turnkey potstills – Sergio Traverso, Concannon Vineyards; *Eua de vie* production – Jorg Rupf, St. George Spirits; Ageing and blending (including a blending exercise) – Joe Norman, RMS; and a panel of speakers on varieties for brandy production. Class concludes with an informal tasting of speakers' products. **Coordinator:** Bill Knuttel, Saintsbury Winery. **Time:** 9am–4:30pm. **Location:** RMS Vineyards, 1250 Cutting Wharf Road, Napa. **Fee:** $85 includes lunch and tasting, pre-enroll by April 29.

**MAY 7, Saturday**

***Small Scale Winemaking*** / Sect #874E09 Designed for advanced home winemakers who produce small lots of fine wine using minimal equipment.

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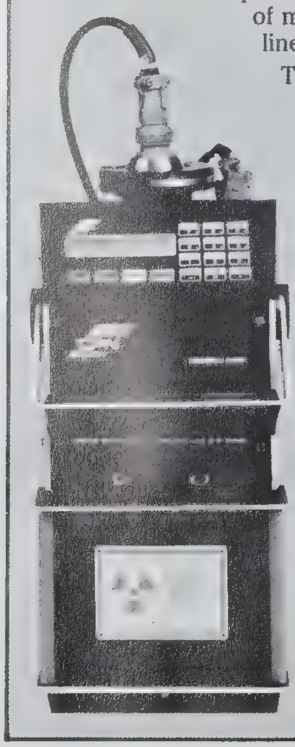

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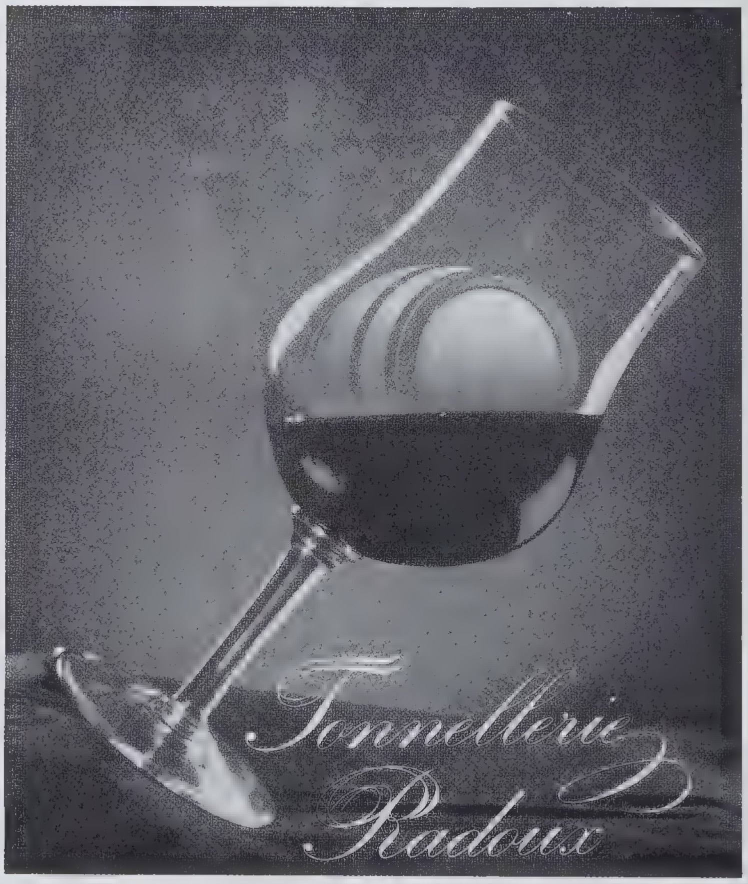

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Topics include: Yeast and malolactic strains – Dr. Linda Bisson, UCD; Zinfandel – Doug Nalle, Nalle Winery; Sauvignon Blanc – Sandy Belcher, Long Vineyards; Merlot – Bob Mueller, Chateau Chevre; French cooperage – Mel Knox, barrel broker; Fining trials – Jim Lapsley, Orleans Hill; Cabernet Sauvignon – Aleta Olds, Las Montanas; Chardonnay – Mike Chelini, Stony Hill; and Syrah –Bob Lindquist, Qupe. Programs ends with a tasting of all wines discussed led by Kevin Hammel of Santino Wines. **Instructor:** Jim Lapsley, UCD Extension and winemaker, Orleans Hill Winery. **Time:** 9am–5pm. **Location:** Orchard Room, University Extension Center, Extension Center Drive (off Hutchison), UCD. **Fee:** $65 includes lunch and wine tasting, pre-enroll by April 29.

**MAY 14, Saturday**

***Introduction to Wine Analysis*** / Sect #874E20 Provides home winemakers an opportunity to learn and perform basic wine analysis. The class combines lecture, demonstration, and hands-on lab work for the following crucial tests: free and total $SO_2$, volatile and titratable acidity, pH, malolactic paper chromatography and total alcohol. Participants should bring several 750ml samples of their own wines to test during the class, although samples wines will also be provided. Class is limited to 23 students. Sack lunch and old clothes are suggested. **Instructor:** Ted Miller, cellarmaster, Dept. of Vit. & Enol., UCD. **Time:** 8am–4pm. **Location:** Room 123, Enology Building, UCD. **Fee:** $100 includes lab supplies, pre-enroll by May 6.

*For further details and to enroll by telephone using VISA or MasterCard call 800/752-0881 in California. Davis and Dixon or out-of-state residents call 916/752-0880.*

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# WINE LABELS:
## Standards and Competitions

*Winona Winkler Wendth*

Everyone knows that a well-designed label helps to sell a bottle of wine. What 'well-designed' means, however, is still sometimes unclear to winery owners and marketers. Is a successful label one with fine art? Good lettering? Lots of color? How about gold-embossing? What about cost? The more expensive the better? Maybe. Then again, maybe not.

It is important to remember that labels are often the first element in a consumer-product relationship. They are central to image development and marketing strategy. They are often an extension of the personality of the winery and/or owner and they also can reflect a wine's style. Labels help sell the product—at least the first time.

But if you ask a group of package designers what a good label for your wine would be, you will receive as many answers as people you ask. This is not because good design is an entirely subjective issue; it is because designers translate some marketing requirements in different ways. If you ask them to give a basic 'formula' for a successful wine label, you will receive essentially the same answers.

### Growing Interest

In fact, these shared opinions and observations are the judging criteria used by a growing number of competitions that focus on wine labels rather than on wines.

Why are such competitions proliferating? There is the interest of lay people—wine label or bottle collectors, for example—and the interest of designers, who increasingly are asked to 'fix' dated or unsuccessful labels, and who would like good design officially recognized.

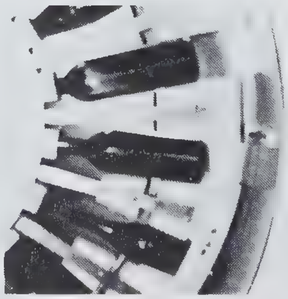
There is also a growing interest among winery management, who increasingly recognize the need for good graphics in public relations and marketing. Because of this, more and more wineries are submitting their labels for public recognition. For example, there were 215 entries in the 1987 California State Fair Wine Label Competition. Also, more and more associations related to the wine industry are making a point of recognizing wine label design.

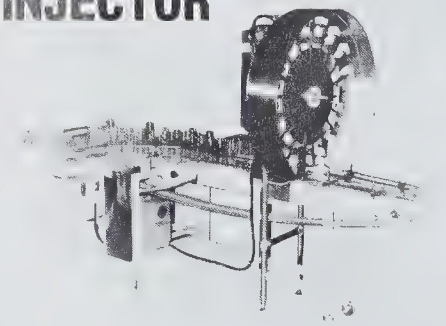
What makes a label an award winner? Is entering a competition worth a winery's entry fee? In most cases, the difference between a successful label and an award-winning one is the simple act of entering a competition. In fact, the elements that make a label successful intially are what judges evaluate.

"They are exactly those that any good designer and marketer knows must be part of the design process and product," says Ralph Colonna, President and Creative Director of Colonna, Farrell: Design Associates, which has won many awards for their package designs and wine labels.

### Judging Criteria

Whether entering a label or design show is worth a winery's effort or not is a different matter and depends on the type of





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|---|---|---|
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association sponsoring a competition. In most cases, these are the primary considerations in award-winning designs:

1) *The design should be distinctive and memorable.*

The label should somehow set the product apart from others similar to it. The design should attract attention, not only the first time a potential buyer sees it on a shelf or table, but also when he goes back for more. The design should have an element distinctive enough so that the customer not only can remember it, but can describe it to others as well.

2) *All the elements of the design should be integrated.*

The bottle shape and color, the neck piece, and the front and back labels should reinforce each other graphically through color, shape and texture. Judges give labels points for integration of design elements into the entire presentation 'package'.

3) *The design should be 'timeless'.*

Colonna echos other marketing specialists when he says that a good label should be usable to a winery for at least ten years. 'Second' labels can have a marketing life as short as three years because they usually are not an integral part of the winery image. If a winery wants to experiment with new ideas without compromising overall marketing strategy, a special bottling or second label is the place to do it.

4) *The label should be appropriate for the type, style and price of the wine.*

This is an element of 'design' that is difficult to define, yet every judge of wine labels considers it very important. An expensive-looking label on an inexpensive bottle of wine may confuse or anger a consumer and will draw negative remarks from judges.

Conversely, an inexpensive-looking label on a premium wine probably will have a negative effect on sales. Unless the reputation of a winery is so good that its wines could have *anything* on them and sell out, a label that does not live up to the wine it represents or to the reasonable expectations of the winery's target market segment is death to sales.

The price-quality relationship is only one part of this approach to design. Suggestions of richness, heaviness, lightness, or immediate drinkability can be incorporated into a design with subtlety, reinforcing the consumer's attraction to, and appreciation for, the product.

Generally speaking, judges also look for design elements that are 'clear, strong, fresh, and clean," by which they mean "easy to recognize and read from a distance, not clichéd, and not cluttered."

### Successful Examples

Good examples of how these elements work together are Gloria Ferrer Champagne Caves' completely redesigned label and Round Hill Vineyard's newly modified one.

Gloria Ferrer's distinctive multi-part label replaced one designed by a Spanish firm, which apparently was not familiar with the market Ferrer had targeted in the U.S. Sales during the 18 months after the champagne was first released late in 1985 were about 2,000 bottles. Disappointed, and convinced that the traditional Spanish design was not communicating the correct message to potential buyers, Ferrer contracted Colona for an entire image renovation.

The result was an elegant three-piece, 5-color design that features Ferrer's new circular, sinuous grapevine and leaf logo in green and gold embossing on fine pale green and burgundy rules. The bold, but carefully-detailed front piece, contoured to recall the outline of the champagnery's Spanish buildings, also bears the Ferrer family horseshoe insignia and Gloria Ferrer's signature underneath the logo, whose predominant elements are repeated in gold on the neck piece.

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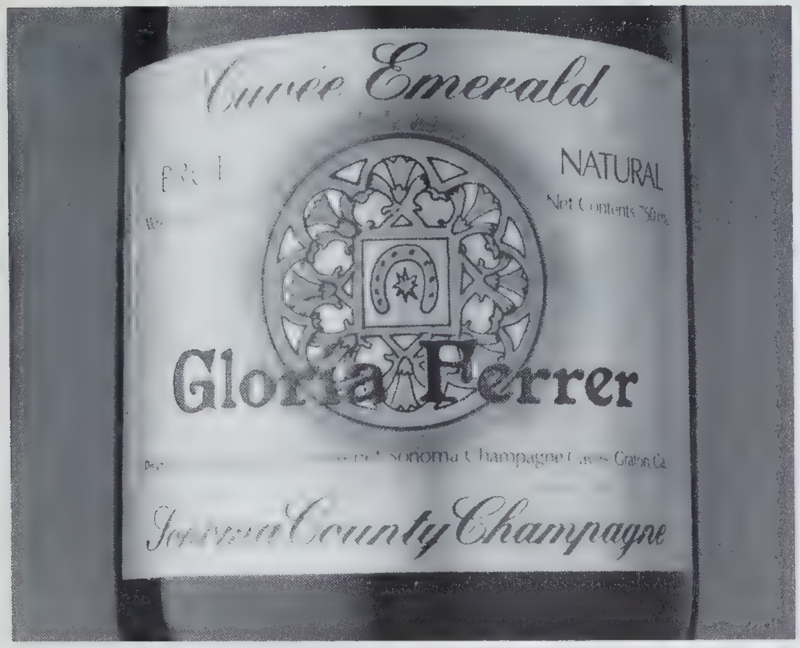

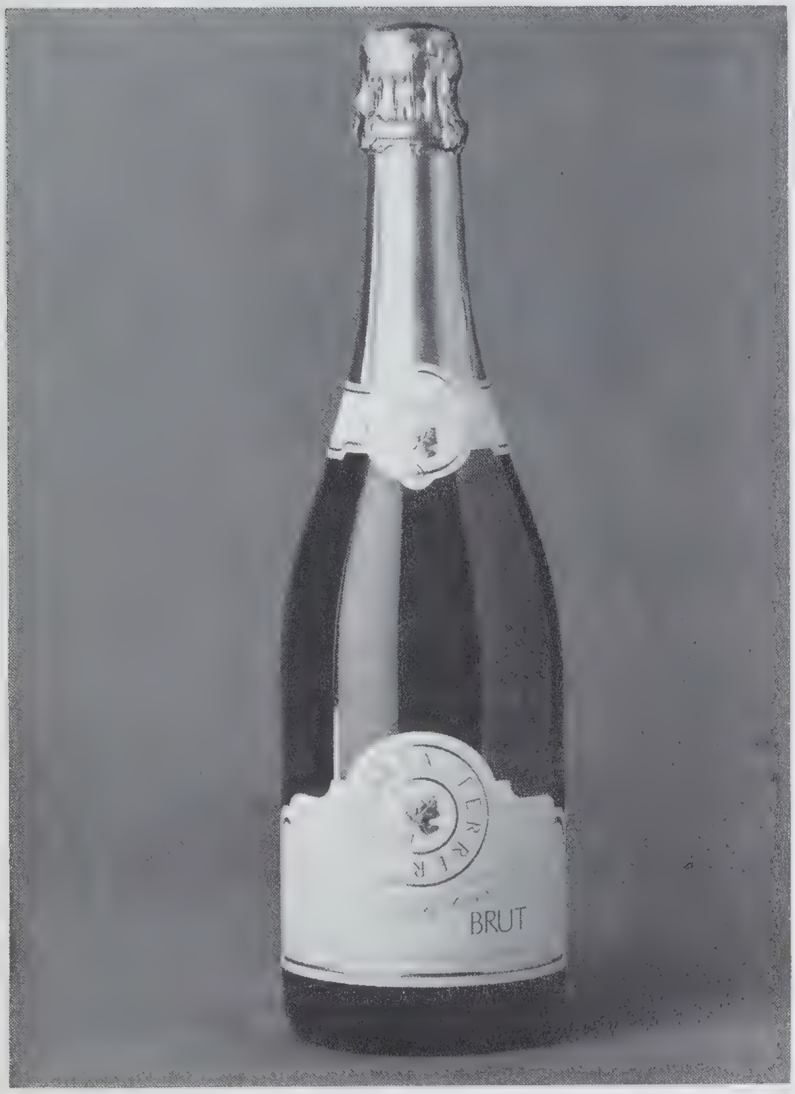

The new label emphasizes Ferrer's family heritage and maintains the company's link with the Continent without being stuffy or suggesting an inexpensive Spanish champagne. Its message is clearly American and elegantly 'upscale', a ubiquitous term among designers and marketers, which means 'contemporary and non-threatingly expensive'.

More to the point, Ferrer sold as much champagne in one month on the shelves with the new labels as they had during the 1½ years with the old ones. Sales have kept up since then, even though the only difference in the product is an additional three or four months on the yeast.

"The effect of the new label was a miracle—it was phenomenal," says Lysha Albright, director of public affairs for Ferrer. The new logo and label affected all elements of packaging and marketing, from stationary to case design.

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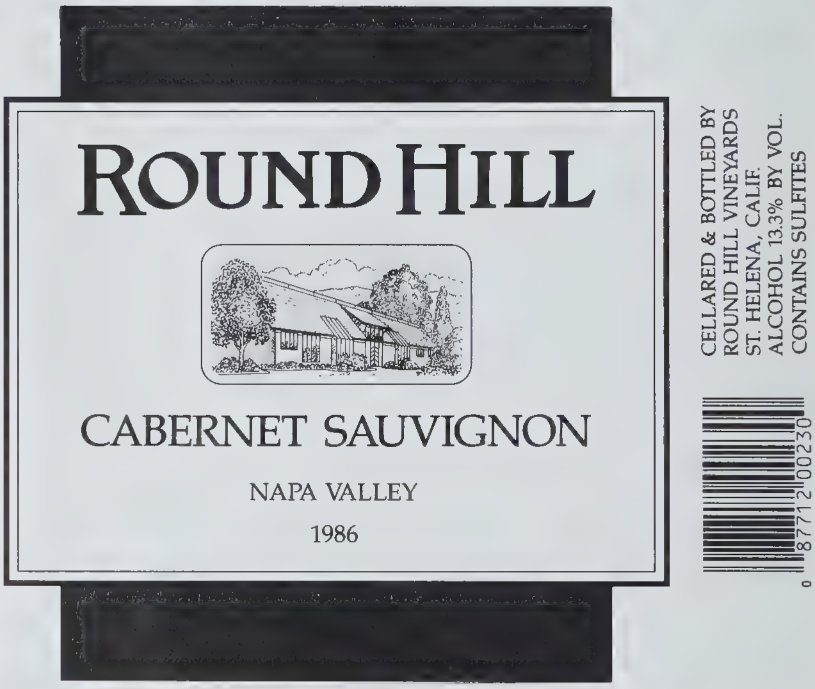
Another successful but somewhat less dramatic example of an image update is Round Hill's new blue and gold label.

This design is a bolder, more readily recognizable and concise edition of a previous label originally produced by Colonna, Farrell and gives the impression of a multi-layered label. A horizontal gold-edged cream piece seems to overlie a vertical gold or blue one, depending on the type of wine—reserve or "house."

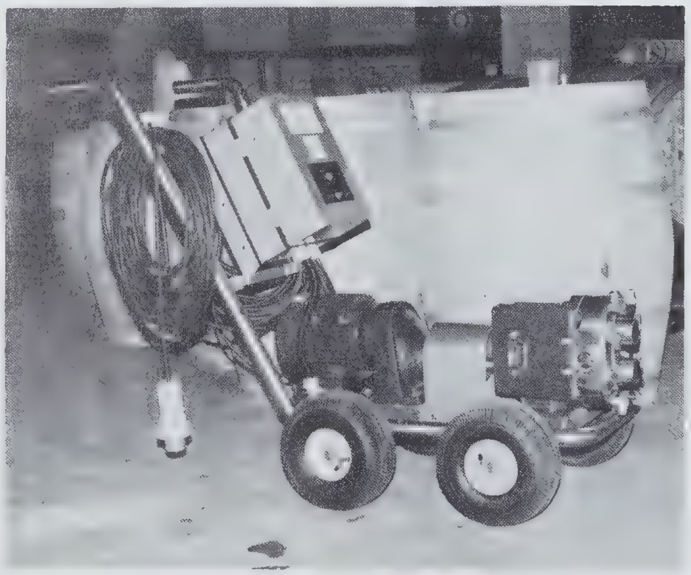
The label also features heavier midnight blue serifed lettering similar to what was on the previous label and a gold-embossed rendition of the new main winery building. Bureau of Alcohol, Tobacco and Firearms information is printed sideways, on the edge of the label, along with a UPC code, making it easily readable yet graphically unobstrusive, "cleaning up" the main part of the label.



Round Hill management considers the label, "a marketing triumph, a fabulous graphic design that has tremendous shelf-presence," and reports that it has had considerable influence on sales. Commissioned in 1986, the new label has become the basis of all marketing design, including the winery's letterhead and even its mailbox.

The key to good label design, whether it enters or wins a label competition or not, is knowing your product, knowing your market, and representing that information graphically.

*Part II, will cover types of competitions and the value of winning awards to wine marketers.*



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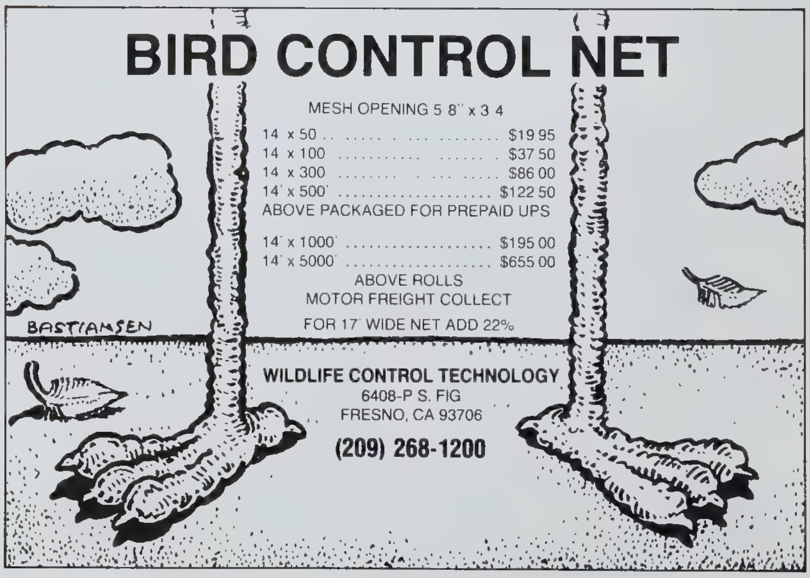

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*continued from page 51*

wine. We had a $47,000 capital investment and needed to start earning some money to justify the significant expenditure."

The Detroit Omni restaurant, 333 East, also makes use of the Cruvinet for wine service. Each diner is given the Cruvinet list at lunch and dinner. The restaurant's complete wine list is on each table for dinner only. Bottle prices on the complete list range between $13.75–$245.00 with an average price of $20.00–$27.00. Dinners are priced $11.95–$21.00. The Cruvinet allows serving a 12-oz carafe of any wine on the list at half-bottle price–a popular option at dinner.

No system is perfect and one disadvantage of any nitrogen sparging system is that the restaurant diner, ordering wine by the glass, never sees the bottle or the label–the bottle remains in the Cruvinet. The flip side is there's a great selection of wines by the glass.

The Cruvinet has its limits too. If the wine is older and you go past the 14 to 15-day limit, it does begin to tire, and money is wasted if the wine isn't sold.

Sheer is now the Food and Beverage Director of the Omni's Parker House in Boston, MA. Darrel Powell who has replaced him at the Detroit Omni states, "While a tasting bar operates at our other properties, none is as successful as the Detroit program."

Powell, a San Francisco native and frequent visitor to California wine country, sees a similarity between a winery tour and the tasting bar. "If you've been on a winery tour, there are always questions you'd like to ask, but you are intimidated because there are other people with you.

"At Tastings, we have knowledgeable waitstaff and customers can get their wine questions answered on a one-to-one, personal basis. Our employees feel compelled to learn in our training sessions because they know they will use the information."

Tyagi makes all selections for the wine bar. "Generally we begin with 10 cases of a given wine and the distributor must commit to additional cases if we need it," she says. Tyagi also trains wine service personnel for the dining room and the wine bar. She frequently uses purveyor's samples for weekly taste training sessions that include 12–15 wines.

### The Bottom Line

On average, 50 glasses of wine are served at lunch to 100–120 guests/day with this breakdown: four white wines to one red in summer, and three whites to one red in winter. Dinner guests average one 6-oz glass/person.

Sheer made this conclusion: "50 glasses/day at lunch with an average price of $4.00 = $200/day X 5 days/week X 52 weeks/year = $52,000/year gross. We paid for the equipment in one year.

"Corporate management sets 3X wholesale as a pricing rule of thumb. I prefer to employ a sliding scale from 2X wholesale for the most expensive wines to 3X wholesale for the least expensive. A recent report of beverage sales proves the value of the pricing policy."

Of $48,000 total alcoholic beverage sales, $18,000 (38%) was wine and $10,000 (21%) was beer. Analysis of total wine sales showed that 66% of wine profits came from Cruvinet sales (52% white wines, 14% red).

"Since by-the-bottle wine sales represent only 34% of the total, more than half of which is Champagne, we are convinced that our by-the-glass program, via the Cruvinet, explains our profitable wine program," states Powell.

"National reputation and marketing structure lends prestige to our program, but there is autonomy within the corporate structure. The bottom line is that I'm responsible for a money-making food and beverage operation here. We are serious about what we are doing–we're not just another hotel wine bar and dining room."

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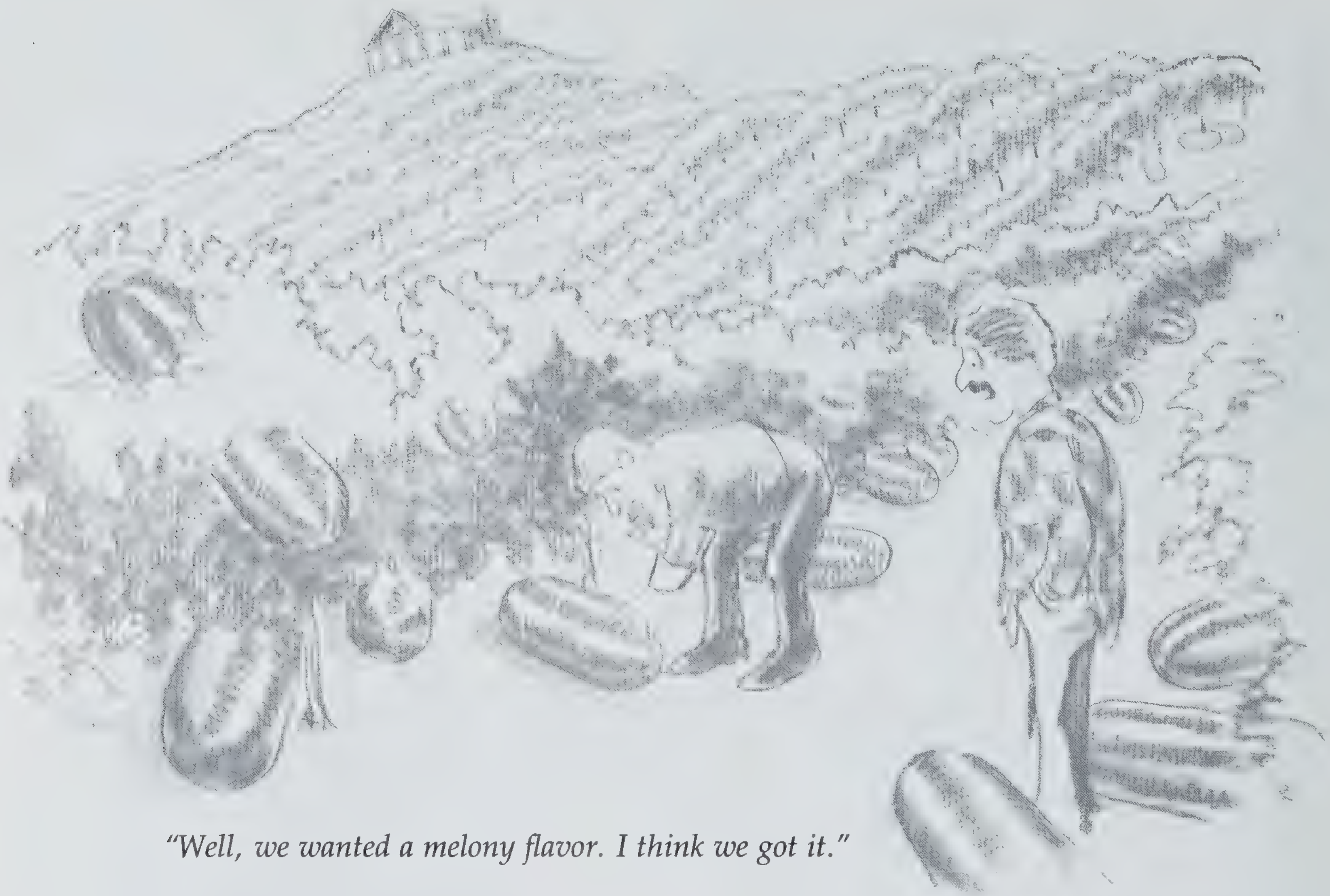

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**The Wine Lab**

477 Walnut St.
Napa, CA 94559
**Order Phone Machine: 707/224-7905**
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*continued from page 8*

without a vintage label would not unduly compete with American wines.

We would like to address these points individually.

Vintage dates exist on wines for two very specific reasons: to inform the consumer of the year of harvest, with special attention to vintage quality considerations; and secondly, to inform the consumer of the year this wine was produced.

Under present regulations, we have the option to list the origin of our grapes on the back label only. We do this. A vintage date on a wine with an appellation does not automatically guarantee the consumer a good wine. But if one were to argue that it at least informs the consumer, then this regulation does exactly the opposite by withholding information vital to the consumer.

Not only is the consumer prohibited from making a decision based on quality, he is open to deceit from unscrupulous retailers who would sell a wine much past its prime, without an identifying vintage date.

The mere concept of Freedom of Information tells us that better knowledge produces better decisions—in this case the consumer. Furthermore, knowledge of the origin of the grapes easily found on the front label would enhance these decisions.

Regarding the topic of foreign wines, we are unclear about this point. Foreign wines of country appellation, usually by their own design, are generally the lowest of quality. This is especially true of French wines.

While we admire the attempt to reduce unfair or misleading competition, in effect the regulation keeps us from marketing our wines out of state by putting us in a non-vintage category with these inferior imports.

Are U.S.-produced wines subject to the same stringent labeling controls as imports? One would hope not, especially if the main interest of the B.A.T.F. is the genuine support of domestic wines in the face of cheap, state-subsidized imports. Why not a distinction between domestic and foreign wine regulations?

The many wineries in New England and the midwest that purchase grapes from New York, Pennsylvania, Michigan, etc., and the several wineries all over the United States that purchase California grapes, and indeed the California wineries that purchase Washington state grapes, all suffer from this regulation.

We at Chateau Thomas Winery feel very restricted in the marketing of our wines. We have a dedication to bringing the best West Coast grapes to Indianapolis and marketing the wines here in the midwest. The markets of Chicago, Louisville, St. Louis, etc., are vital to the continued growth, if not life, of our business.

Many professionals in the wine trade have called our wines world-class. The concept of interstate marketing is not a pipe dream. Several restaurants and retail outlets in Chicago, one of the largest wine markets in the world, have told us that they would love to buy and market our wine.

However, without a vintage date, these potential retailers will not take a chance that their consumers would understand this. With retail prices up to $15.00/bottle, their public would expect a vintage date. Yet we see no reason for the denial of vintage dating according to ss. 4.27.

We, sir, are one small winery among hundreds. However, we know of many faced with the same unfortunate restrictions. We ask you to help us change this well-meaning but unduly restrictive regulation that threatens to stifle our growth and keep the Americna wine consumer from growing along with us.

We will leap at the opportunity to assist you in any way possible to rectify the problem. Thank you for your kind attention to this matter.

**Sincerely,**
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We'll give you the cold facts.**

When it comes to keeping cool there are many options and the correct choice could save you up to 40% in operating costs each year.

Most companies involved in wine refrigeration sell a glycol system. That's all. You shouldn't expect them to present an unbiased view of the alternatives with which they cannot serve you.

PRC custom designs every type of system, from the smallest chiller to the largest computer aided direct refrigerant tank farm—and everything else in between.

We will help you compare the alternatives, then you make the choice that's right for you. Get the collective engineering staff experience of over 150 years and the support of the company that helped to shape California's wine making industry for over 30 years.

Call Mark Curtis or Ken Solberg for an appointment to talk about your special project.

**INDUSTRIAL REFRIGERATION
CONSULTING ENGINEERS**
EQUIPMENT—FULL SYSTEMS FABRICATION—MAINTENANCE
24 HOUR SERVICE NETWORK

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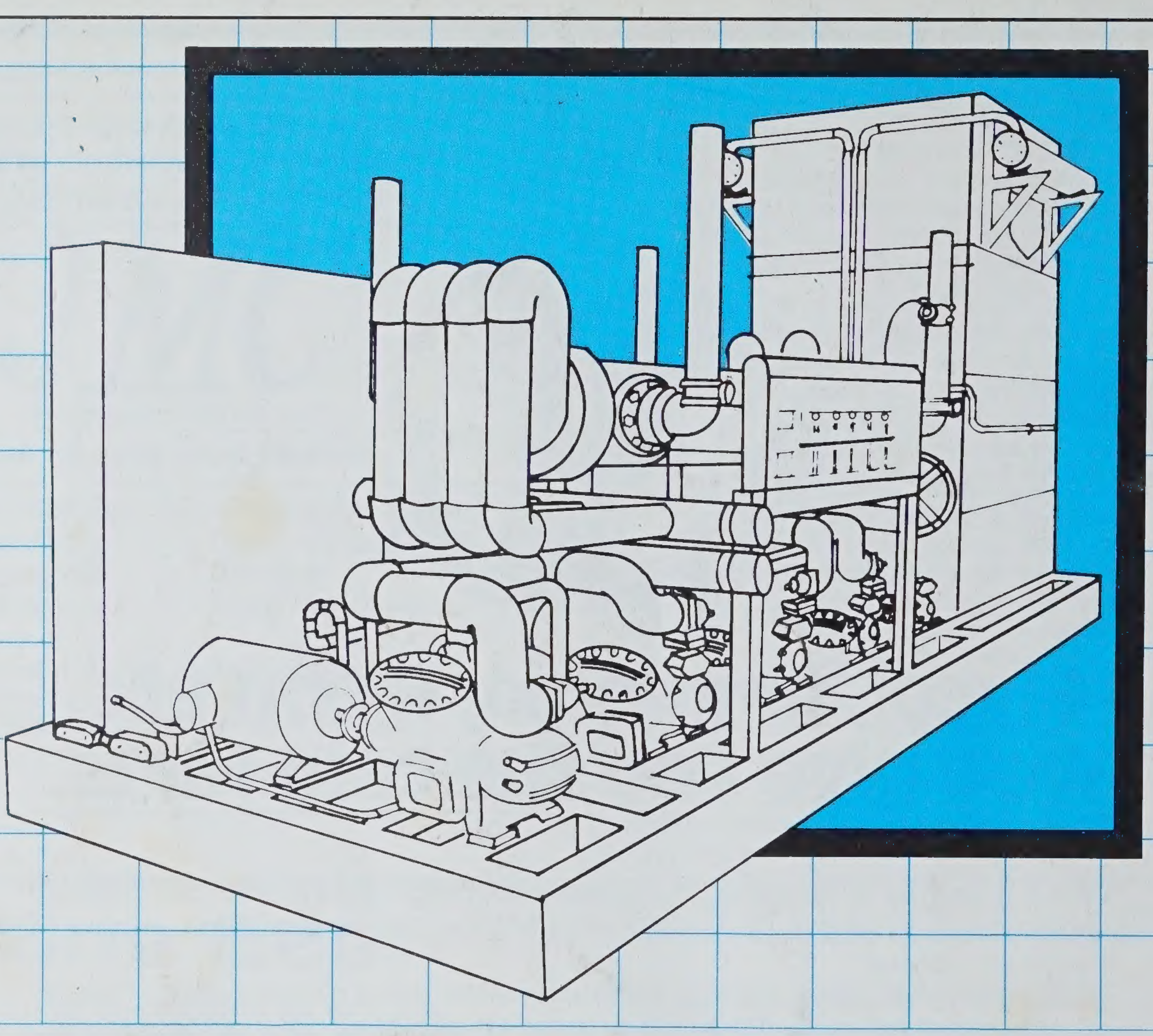

# Blazing new trails in winery refrigeration.

**For more than 10 years IRAPP and Thermo Systems have been innovators in custom designed industrial refrigeration.**

**Look at the record.**

- **1976** - Stainless steel plate coils for non-jacketed tanks.
- **1978** - Chillers for reducing must temperature.
- **1978** - Scrapped surface wine chilling for tartrate removal.
- **1980** - Portable glycol heating package for juice and malolactic fermentation.
- **1981** - Series 800 indicating-temperature controller developed in conjunction with United Electric for accurate temperature control in jacketed tanks.
- **1982** - "User-friendly" Freon refrigerant in jacketed tanks.
- **1987** - Electronic system for controlling wine temperature, equipment sequencing, load scheduling and energy savings.

**IRAPP and Thermo Systems are dedicated to continued leadership in the development of new technology for improving wine processing systems.**

IRAPP
INDUSTRIAL REFRIGERATION &
PROCESS PIPING, INC.

**1411 Grove Street**
**P.O. Box 129**
**Healdsburg, California 95448**
**(707) 433-9471**

Thermo Systems Inc.